THE NEW SCHOLASTICISM

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NEW SCHOLASTICISM
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NEW PHYSICS AND NEW SCHOLASTICISM

THIS paper is an inquiry into the philosophical value of modern physics considered in its present constitution. We say in its present constitution because physics has undergone rapid transformation within the last few centuries. A complete answer to this problem then will concern itself with: (1) The development and the nature of modern physics; (2) The philosophical value of the new physics.

The evolution of modern physics can be described in terms of the new meanings and interpretations given to the three notions of matter, space, and time. Matter for Descartes meant something extended, or, thanks to an unhealthy transposition of metaphysical terminology to physics, a " material substance ". For Newton it meant " mass ".

Having isolated the notion of mass, Newton proposed an account of the motion of masses as moving in space and time. But for Newton there was one universal space and one universal time, or as he put it, " absolute true mathematical time and absolute space ". From this it follows that of any material body it can be said that it is ' here ' in space and ' here' in time without making reference to other regions of space and time, for the simple reason that there are no other regions.

For a long time these three Newtonian abstractions of mass,

space, and time were the cardinal concepts of the science of physics, but they are so no longer. Their content today is poles apart from that attributed to them in the days of Newton. First of all, the idea of mass gradually shook off the meaning of "substance", which Descartes had erroneously attached to it, and then freed itself entirely from its synonymity with matter. Dalton paved the way for the new conception by showing that matter is composed of atoms and molecules. The Faraday-Maxwell experiments elaborated further this idea and took men's minds away from the atoms as little round balls of matter and focused them upon the electrical character of the atoms. J. J. Thompson and Rutherford then suggested that the atom was made up of electrical charges and pictured it as a sort of miniature solar system. At the center was the positively charged nucleus; circulating about the nucleus are negative electrons, their number being sufficient to balance the positive charge of the nucleus, thus making the whole atom electrically neutral.

Matter or mass, it becomes clear, was not something separate from the electro-magnetic field; it was a point of condensation of that field. In other words, matter or mass was now interpreted in terms of electricity, and since electricity was not a substance it follows that a new notion had to replace that of "substance" which Descartes wrongly bequeathed to physics. The new notion which supplanted *substance* was that of *behavior*. The behavior of an electron, it was said, could be described by its size, its mobility, its inertia, and its electrical character. As if to add insult to injury the old Newtonian abstraction of mass received a further blow from Einstein, who held against Newton that mass is not the unalterable characteristic of a body. Einstein seems to have proved that the mass of a body varies with its velocity and the velocity itself is purely relative to certain parts of the universe.

These facts reveal that the subject-matter of the physical

sciences has changed more between Newton and Einstein than between the Ionians and Newton. Both the Ionians and Newton asked of what "stuff" the universe was made, the former answered in terms of air, earth, fire, and water, the latter in terms of mass. It was this tendency on the part of both to think of the universe as "chunks" of matter and in terms of a false conception of substance as extended matter which ultimately brought about the ruin of the old physics. Professor Whitehead tags a fancy label on the old school and describes their mentality of thinking out physics in terms of the simple location of instantaneous material configuration as "The Fallacy of Misplaced Concreteness".

The severe handling of Newtonian mass by later day physicists and its subsequent interpretation in terms of electrical behavior is mere child's play compared to the abuse heaped upon the Newtonian absolute space and absolute time. Einstein now contends that space and time are not ultimate, but that each observer has his own space and time in which he places his events. We are, for example, in a different space-time and a different time-frame on this earth than we would be on Mars. There is a frame of space *relative* to the terrestrial observer, another frame *relative* to the nebular observer, others *relative* to other stars. Hence a distance reckoned by an observer on one star is as good as the distance reckoned by an observer on another star. They cannot be expected to agree; the one is a distance relative to one space-frame, the other is a distance relative to another space-frame. The absolute distance or absolute space of Newton is meaningless; so also is his law about the inverse square of the distance unless one first decided on a certain fixed frame, but nature itself has not fixed upon any frame.

By a peculiar kind of ego-centrism we have drifted into the assumption that our space-frame is the only reasonable one, but this must, we are told, be abandoned, for tolerance extends

to other frames than our own. And what has been said of the relativity of space-frames applies with equal rigor to the relativity of time-frames.

But the new physics does not stop here. Although each observer has his own space and time in which he locates events *these spaces and times are related.* Minkowski assures us that though different observers inhabit different frames of space and time, they all inhabit the same space-time. But what is space-time? By space-time he means the four-dimensional continuum which is obtained by assimilating the three dimensions of space to the one dimension of time. This union of space and time is rather difficult for the layman to grasp, for he has always conceived time as distinct from space, or "instants" as distinct from dimensions. Modern science, however, refuses to pamper the separation of time-dimension and space-dimension and insists that no event is intelligible apart from space-time.

An example may clarify the new notion of space-time as against the old Newtonian one of absolute space and absolute time. Imagine two flashes of light fifty feet apart and one following the other after an interval of two seconds. There is space-distance between them and also a time-lapse. Now if a time-lapse or interval be regarded as a "distance" in the time-dimension there arises a kind of generalized distance in four dimensions. There is distance between two points on a line, two points on a plane, and two points in space. These make three dimensions. Now add the time-lapse as a distance to the three-dimensional distance and we have the four-dimensional distance. In simpler terms a fourfold specification of an event might be dissected into right or left, behind or in front, above or below, sooner or later. The old notion was that of a three-dimensional world of length, breadth, and thickness floating in the stream of time. The new conception unites both and holds that the space-frames and time-frames of dif-

ferent observers are nothing more than different sections, as it were, of the great spatio-temporal continuum.

Before leaving the notions of space and time it is necessary to emphasize further the differences between Newton and Einstein by referring to the different mathematical systems of both. Newton, everyone knows, built his system of absolute space and time on Euclidian geometry whose axioms up until a hundred years ago were thought to be unescapable, though there was some uneasiness about the axiom concerning parallel lines. Now Newton assumed that the geometry of space was Euclidian; his "straight line" was the Euclidian straight line which is defined as the shortest distance between two points. Newton argued that if a body does not move in a straight line there is some "force" acting upon it. But the planets do not move in straight lines, therefore there is some "force" acting upon them. This force he called gravitation. But what is more important than this conclusion is that Euclidian geometry held true throughout the whole field of absolute space.

But Einstein works not on the Euclidian geometry but upon the non-Euclidian system of Lobackevsky and Bolyai which is built upon a denial of Euclid's parallel axiom. Note now what happens to the "straight line" axiom of Euclid and Newton. These geometricians and Riemann later on contended that the straight line is the shortest distance between two points, only on certain conditions. Take a ball for example. If we confine ourselves to the surface, the arc is the shortest distance; but it is not the shortest distance if we choose to cut through it instead of running around the surface. That is why figures on a sphere do not obey the laws of Euclidian geometry. The interior angles of a spherical triangle are not equal to two right angles.

Einstein uses the non-Euclidian geometry and therein is the root of the difference between Newton and himself. Dispensing with Euclidian geometry for space, could he now dispense with

the force of gravitation which was rendered necessary by that geometry? Einstein believes that he can and in his generalized relativity theory does away with the notion of the force of gravitation. Observe that Newton arrived at the idea of gravitation through the application of Euclidian geometry, while Einstein dispensed with it through the application of non-Euclidian geometry. The conclusion of his last six-page book is that electricity is the same as gravitation, though he might have added for the man on the street that one costs more.

This cursory outline of the development of the new physics permits us to draw two important conclusions concerning the nature of modern physics. The first is that the concepts by which Newton described phenomena—mass, absolute space and time—have been replaced by an entirely new set. Mass has been supplanted by electrical charges made up of protons and electrons, which so far as science is concerned, are not *entities* but *descriptions* of behavior. Absolute space and absolute time have been supplanted by space-frames and time-frames which go to make up the spatio-temporal continuum. Secondly, the desire since the days of Descartes to interpret natural phenomena in terms of mathematics seems to have reached its highest peak in the Einstein theory. Physical science today is not an explanation of the universe in terms of causes but rather a mathematical description of its almost unimaginable entities. No longer is physics interested in a "quantity of matter"; the new physical quantities are "length, angle, velocity, potential current," etc., and in order the better to manipulate these quantities they are treated mathematically, or more accurately still in terms of a geometry applicable to the space-frame and time-frame in which they reside.

A new problem now presents itself: Has modern physics, as presently understood, philosophical implications? The question is not whether one may philosophize on it, for of this there can be no doubt, but whether *in itself* it is a philosophy. The

natural philosophy, or better the physics, of the Middle Ages had philosophical implications but can the same be said of modern physics? In the language of modern thought does physics include a description of values or does it ignore them? There are two important answers given to this problem, the first that of Professor Alfred Whitehead, the second that of Professor A. S. Eddington.

Dr. Whitehead in his *Religion in the Making,* sponsors the theory that modern physics does have philosophical implications, does embrace a whole doctrine of values, and is in itself a philosophy. To this distinguished scientist physics is so philosophical as to demand an entirely new conception of God and religion. His argument runs: The old notions of God, immortality, worship, religion, and the like were grounded on the belief that the universe was made up of "substances" possessing a "simple location in space and in time". But modern physics has quite overthrown this conception of the universe and holds that space and time are better explanations of things than matter. There are no longer any "substances"; there are only "events" or "epochal occasions". It follows that God must no longer be understood as a Supreme Being" outside of this universe, but as a kind of "ideal harmony" existing in it, and holding together the various "events" or "epochal occasions" in an orderly fashion. If God were outside these events, he declares, we could never know Him.

Dr. Whitehead's response to the question in hand, was treated at length in *The New Scholasticism* for April, 1927, in which the writer pointed out that the author of *Religion in the Making* was transferring categories from one science to another without inquiring into the applicability of those categories. This unwarranted lyricism of science, it was argued, in which God is interpreted solely in terms of space-time, is founded upon the assumption that the content of the material universe must necessarily be the content of everything in that universe and outside

of it—an assumption which is just as unreasonable as interpreting the universe in terms of the categories of corporation law.

Another solution is offered by Professor A. S. Eddington, who has recently published one of the most remarkable scientific books of our day, *The Nature of the Physical World.*[1] The first eleven chapters are for the most part concerned with new physical theories and the reasons which led to their adoption; the last four treat of the relation of physics to other branches of knowledge and particularly philosophy and mysticism. The following statements summarize his attitude toward the problem here discussed.

Modern physical science is not philosophical because it always remains within its own domain by the device of cyclic definitions, that is, the abstractions with which it begins are all that it ever talks about. "Scientific investigation does not lead to knowledge of the intrinsic nature of things." Physics deals only with symbolic things and then only mathematically. It never enters into the world of the layman and hence does not meet any disturbing factors. There is no mistaking the limitations he places upon physics as a philosophy. "Starting from aether, electrons, and other physical machinery", he writes, "we cannot reach conscious man and render account of what is apprehended in his consciousness. Conceivably we might reach a human machine interacting by reflexes with its environment; but we cannot reach a rational man morally responsible to pursue the truth as to aether and electrons or to religion." Professor Whitehead makes a religion out of space-time events; Professor Eddington makes a physics out of them and leaves religion to those who take a different approach. As he so well puts it, "we can grasp the tune but not the player".

Not only is physics limited to a kind of circle in which its

[1] Macmillan, 1928. Pp. 353.

primary entities are defined in terms of one another, but the certainty attached to its conclusions is distinct from the certainty of philosophy and its first principles. The old example of physical certainity was that the sun will rise tomorrow. Dr. Eddington and his school would leap with joy if such a certainty rewarded their researches. "We cannot pretend", he says, "to offer proofs. *Proof* is an idol before which the pure mathematician tortures himself. In physics we are generally content to sacrifice before the lesser shrine of plausability. And even the pure mathematician . . . is never quite convinced that the scheme of mathematics is flawless." This statement concerning the contingent character of modern science is, of course, only another one added to that already long list reached from Claude Bernard up to Millikan. We might add that it is another confirmation of the Thomistic doctrine that any science which deals with matter in any shape or form can conclude only to probability.

Another reason why modern physics is not a philosophy is because of its new outlook upon the principle of causality. Professor Eddington, along with other distinguished scientists, ignores the principle of causality as this principle is understood by traditional philosophy. There have been some Scholastic interpreters of modern science who believe that these scientists have leaped into the abyss of irrationality by such an attitude as there have been some modern philosophers who believe that science has disproved causality. I believe that such a condemnation of modern scientific method is unjustified. A thing may be ignored for two reasons, first because it has no intrinsic worth, and secondly because it is not relevant to considerations at hand. To ignore the principle of causality on the first ground is of course irrational, but to ignore it on the second ground is simply to make an abstraction and this is all, I believe, that Professor Eddington and other scientists of his reputation intend to do. Professor Eddington explicity states

that physics " postulates a strictly causal scheme, but that the causality involved is one of symmetrical relation and not the one of cause and effect. Physics is indifferent as to whether strict causality prevails ". That an abstraction is at the basis of his ignoring the principle of causality becomes even more evident in a statement which follows: " For convenience sake I shall call the relation of effect to cause *causation,* and the symmetrical relation which does not distinguish between cause and effect *causality.* In physics causality has completely replaced causation."

Why, it may be asked, has " symmetrical relation " taken the place of causation in modern physics? The reasons are twofold. First, statistical laws which do not rest on causation have been the principal source of the greatest triumphs of physical prediction, and secondly, even though there is a causal scheme, " modern atomic theory is not attempting to find it ".

An important conclusion for philosophy and religion here imposes itself. If modern physics is no longer concerned with causes which are transcendental but merely with " symmetrical relations between events ", and if this exclusion is based not on its contempt of metaphysics but an abstraction, it follows that modern physics must necessarily be non-philosophical, for what is philosophy but the science of first and ultimate causes?

Lest there should be any doubt that Professor Eddington disclaims the philosophical and religious implications of modern physics, and that not only is he distinct from Professor Whitehead by the clarity of his style but by the perspicacity of his reasoning, this final remark may be permitted which we trust will be read by those who prattle about the necessity of a new God because of the discoveries of astrophysics: " I repudiate the idea of proving the distinctive beliefs of religion either from the data of physical science or by the methods of physical science."

It remains to inquire which of the above views is consonant

with New Scholasticism, and by New Scholasticism is not meant a new doctrine but a new method, namely the application of the abiding principles of the Scholastics to the problems of our day.

It will be recalled that St. Thomas, after Aristotle, names three supreme sciences: physics, mathematics, and metaphysics.[2] The first is the science of quantity in movement or the modern science of space-time events; the second is the science of quantity alone or numbers; the third is the science of being as being.

Physics will have philosophical implications or it will not have them, depending upon whether the science that illumines it is metaphysics or mathematics. If metaphysics, with its transcendental necessary principles, its principles of causality and finality, is applied to material things, it follows that the conclusions will have a philosophical value, and for this reason the physics of the Middle Ages, illumined by metaphysics, was rightly called natural philosophy.

But suppose that not metaphysics but mathematics is applied to physics; suppose that Euclidian and non-Euclidian geometry, that Riemannian curved geometry, that mathematical symbols are applied to physics with its new subject-matter—electricity and gravitation, then we would have a mathematical physics, but we would not have philosophy.

The mathematical physics then by *its very nature* cannot have philosophical implications such as it would have if metaphysics were applied to physics instead of mathematics. Nor can it be objected that mathematical physics is an illegitimate science. One would hardly think that the authority of St. Thomas could be appealed to in this connection, for mathematical physics is apparently of such recent origin, but really his texts are nothing more than an anticipated confirmation of the position taken by Professor Eddington.

[2] Lib. Boethius *De Trinitate*, q. 5, Art. 5 ad. 1.

In his commentary upon *De Trinitate* of Boethius q. 5 a. 3 ad. 5, St. Thomas speaks of the fitness of applying higher sciences to the lower ones, and explicitly mentions physics as receiving its superior illumination from mathematics:

> Quanto scientia aliqua abstractiora et simplicora considerat, tanto ejus principia sunt magis applicabilia aliis scientiis: unde principia mathematica sunt applicabilia naturalibus, non autem e converso, propter quod physica est ex suppositione mathematicae.

Later on in the same article he proceeds to speak of intermediate sciences such as astronomy or astrophysics and which seem to be mathematical physics:

> Quaedam vero sunt mediae, quae principia mathematica ad res naturales applicant, ut astrologia quae tamen sunt affines mathematicis, quia in earum consideratione id quod est physici, est quasi materiae, quod autem mathematici, quasi formale.

It is probably quite clear that the preceding presentation of the nature of modern physics does not imply or mean that modern physics has no value for philosophy. Our point is merely this: Modern physics in its present constitution, as mathematical physics, has not in itself philosophical implications. It is quite another matter to inquire whether or not one may bring the principles of metaphysics to bear upon the conclusions of mathematical sciences and of this there can be no doubt, but then physics ceases to be physics in the modern sense of the term and becomes what the Scholastics understood by natural philosophy.

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ESSAI SUR LE PRINCIPE DE CAUSALITÉ

PERSONNE n'ignore que depuis la critique de Hume, reprise et complétée par J. Stuart Mill, le principe de causalité a fait le tourment des philosophes. On a dit que Kant l'avait sauvé; mais on sait à quel prix! Il n'est plus que l'expression, sous forme de jugement, d'une forme a priori de l'entendement (*Verstand*). Il est essentiellement synthétique; et ne sert qu'à systématiser le chaos des phénomènes, successifs parce qu'ils ont été unifiés au préalable dans la forme subjective du temps. Ce n'est assurément pas ainsi que des siècles de pensée consciente ont conçu le principe de causalité. De cette manière il ne nous permet pas d'atteindre le réel; et si la raison (*Vernunft*) prétend envahir au moyen de la causalité le monde des choses en soi, ses efforts ne sont plus que " transcendants ", c'est à dire complètement illusoires, ou au moins " problématiques."

Kant a très nettement marqué, en essayant de dépasser l'empirisme et l'idéalisme, les deux éléments indispensables de toute structure intellectuelle. Il y a d'une part les données empiriques, " irrationnelles ", qu'aucun effort n'arrive à rationaliser complètement; même l'idéalisme radical de l'école de Marburg reconnaît que c'est là un idéal inaccessible. Il y a d'autre part les principes fondamentaux, qu'aucune analyse ne peut réduire à des jugements antérieurs; tels les principes d'identité, de contradiction, du tiers-exclu, de raison suffisante et même de causalité. L'empirisme nie la valeur objective des principes; et par là-même il sacrifie en dernière analyse toute pensée humaine. L'idéalisme s'efforce d'écarter toute empirie; l'esprit est la source unique de toute connaissance; il doit créer son objet; et les idéalistes aboutissent ainsi à un " panlogisme "—idéal dont ils reconnaissent eux-mêmes l'impossibilité. Ceux qui veulent échapper aux inconvénients de ces

théories trop étroites, en maintenant les deux éléments essentiels de la connaissance, reconnaissent que cette dualité produit une " tension "—ce que les allemands appellent une *Spannung,* qui est toujours gênante, qui peut devenir un péril, et reste un " problème éternel ".

Au moins veut-on diminuer la gêne dans la mesure du possible. Tous les principes que spontanément nous employons pour édifier nos structures intellectuelles ne sont pas de même ordre. Les principes d'identité, de contradiction, du tiers-exclu et même celui de raison suffisante restreint à l'ordre logique, constituent la texture même de la pensée. On ne les sacrifie qu'en se condamnant au scepticisme absolu, intolérable et contradictoire. Il faut se résigner à ces principes, même si on les rend aussi subjectifs que possible. Mais le principe de causalité ? S'impose-t-il avec la même nécessité ? Peut-on le ranger parmi ces axiomes, qui dominent, non seulement toute systématisation scientifique, mais toute pensée humaine ?

Nous croyons que le dernier essai de répondre à ces questions déconcertantes est celui de J. Hessen, professeur à l'université de Cologne.[1] Ses conclusions sont d'un radicalisme surprenant. Le principe de causalité est essentiellement synthétique : de " ce qui devient " on ne déduira jamais la nécessité d'une cause. Tous les efforts que les philosophes ont faits à cet effet ont misérablement abouti à des cercles vicieux, ou à d'autres sophismes : pétition de principe, *ignoratio elenchi.* Le principe de causalité n'est pas un axiome au sens propre du mot : rien ne nous oblige à penser que " ce qui devient " doit avoir une cause. Il n'y a là aucune " *Denknotwendigkeit* ". Il y a là un simple " *postulat* " de la construction scientifique. Et encore faut-il s'entendre. Le principe de causalité n'a aucune application dans les sciences purement rationnelles. Seules celles qui prétendent systématiser les phénomènes de la Nature ne peuvent pas s'en passer. Evidemment, sans le prin-

[1] Johannes Hessen, *Das Kausalprinzip* (Augsburg : Benno Filser, 1928).

cipe de causalité, le monde reste incompréhensible; mais qui prouvera que le monde, dans sa complexité ahurissante, dans son " irrationalité " foncière, doive pouvoir être compris.

Reconnaissons que M. Hessen s'est livré à des recherches multiples et à des analyses ingénieuses. Disons encore que contre certains de ses adversaires il a beau jeu, et qu'il détruit sans peine des essais de démonstration par trop superficiels. Mais la publication de pareil livre montre, d'une manière douloureuse, la nécessité de soumettre le problème à un sérieux examen. Malgré toute l'érudition du professeur Hessen, nous croyons qu'il y a encore autre chose à dire à ce sujet. Nous n'entrerons dans aucune controverse explicite et intentionnelle; nous nous interdisons de refaire l'histoire de ce problème qui a été faite suffisamment. La causalité et le principe de causalité, voilà l'objet de notre étude.

Il n'y a pas d'illusions à se faire: le problème est délicat et subtil. Il est en connexion immédiate avec la racine même de toute métaphysique. Il nous paraît opportun d'élucider d'abord la notion même de " cause "; car elle n'est pas à l'abri de toute équivoque. Dans la seconde partie nous fixerons notre attention sur le *principe* de causalité.

I

La Notion de Cause

Le monde s'offre à notre observation comme un immense torrent de réalités, qui s'écoule sans relâche dans le temps. Rien ne demeure à tous les points de vue. Le *πάντα ῥεῖ* d'Héraclite trouve un sérieux appui dans l'expérience. Les êtres succèdent aux êtres; et même ce qui paraît durer est soumis à une évolution continue. Il y a du nouveau dans le monde. Souvent il ne surgit qu'au prix de l'ancien qui s'évanouit; ce qui paraît suggérer une permanence dans le changement. Mais le nouveau n'était pas; il devient; et de tout

temps cette fécondité du monde s'est posée devant l'esprit humain comme une énigme.

D'autre part, même le vulgaire constate les tendances de la volonté humaine: on veut que quelque chose soit ou devienne; et l'expérience atteste que ce désir est réalisé dans certains cas par une opération appropriée. Les choses voulues deviennent par une action; c'est celle-ci qui leur donne l'existence. De là à supposer que tout devient par une opération il n'y a qu'un pas; et le sens commun a vite fait de le franchir. L'opération suppose un opérant qui existe. Tout ce qui acquiert l'existence dans l'univers la reçoit par l'opération d'un être antérieur qui s'appelle une "cause". Nous avons ainsi la notion "vulgaire" de la causalité: elle est l'opération par laquelle un être, existant au préalable, en produit un autre, donne l'existence à ce qui n'existait pas auparavant.

Les "vérités du sens commun" sont le point de départ de l'investigation scientifique de l'univers et de la spéculation philosophique. Les naturalistes s'efforcent d'enrichir les notions communes par la découverte de nouveaux phénomènes qui échappent à l'observation du vulgaire, sauf à les systématiser dans des doctrines synthétiques, qui compromettent souvent le point de départ, c'est-à-dire les vagues synthèses spontanées du sens commun.—Le philosophe a un rôle complètement différent. Les notions et les "vérités" du sens commun sont lourdement chargés d'éléments adventifs, qui les défigurent et les faussent. Il faut les dégager de cette gangue imaginative. Il faut les épurer pour les saisir dans leur être réel; et il faut en déduire les conséquences que leur application entraîne dans tout le savoir humain.

Dès l'abord une illusion étrange du "sens commun" se dissipe devant la plus simple analyse. On imagine communément que la causalité est un fait d'expérience. Je frotte une allumette sur une surface rugueuse. La température s'élève par le frottement et l'allumette s'enflamme. L'immense

majorité des gens croient prendre ici la causalité sur le fait. C'est cependant une erreur. On constate tout simplement la succession temporelle de deux phénomènes: le frottement de l'allumette et sa combustion. Jamais, dans aucune circonstance, on n'observe expérimentalement que le frottement "produit" la combustion, lui donne l'existence.

Si l'on réduit la connaissance à l'enregistrement et à la classification des phénomènes observés, comme le veut l'empirisme radical, la causalité ne peut y jouer aucun rôle; et qu'on le veuille ou non, le scepticisme est au bout. Hume a abouti à cette conclusion: la causalité est illusoire; elle se réduit à une succession plus ou moins constante dans le temps.

Cependant personne ne peut se maintenir dans cette position extrêmement artificielle. Personne ne réduit de fait la causalité à une succession temporelle. De la manière la plus constante le jour succède à la nuit, et la nuit au jour. Qui aura jamais la moindre inclination à croire que la nuit est la cause du jour. Et dans notre vie quotidienne, lorsque nous nous abandonnons à l'automatisme de nos habitudes acquises, des actes se succèdent avec une régularité mécanique: à ma leçon suit un repas de la manière la plus constante. Dira-t-on que ma leçon de philosophie est la cause de mon déjeuner? On *choisit* parmi les successions permanentes: certaines d'entre elles sont seules considérées comme causales. Le jour succède au lever du soleil; mon déjeûner se fait à midi; et immédiatement la nuit et la leçon de philosophie sont éliminées de ces connexions causales. A la succession temporelle s'ajoute un élément qualitatif. On veut que la cause ait un certain rapport de nature avec l'effet constaté.—Lequel? Nous nous trouvons ici devant un problème dont on ne soupçonne pas toujours la complexité; et nous passons naturellement à une notion de causalité supérieure à celle qui régit les sciences empiriques.

En raison du dynamisme de l'univers, un phénomène de la Nature n'est jamais un fait statique.—Il faut assurément en

déterminer la nature; et l'analyse ne nous en livre que des parties disjointes. C'est pourquoi, si l'on n'explique rien *par* les causes formelles, on n'explique rien sans elles; car elles donnent l'unité au fait que l'analyse désarticule et détruit.— Mais surtout il faut expliquer la genèse du phénomène. C'est dans ce dynamisme: *une chose change d'état, à un état succède un autre,* que réside proprement le phénomène de la Nature. Il faut en déterminer les deux phases, considérées comme extrêmes, et découvrir dans l'univers ce qui "explique" le passage d'un terme à un autre. C'est ce qu'on appelle la "cause". Comment pourrat-on la déterminer?

Rappelons que la causalité, comme telle, échappe à toute observation. Mais on pose—n'est ce pas un postulat?—que la cause doit avoir précédé le changement dans le temps, et que son action a coïncidé avec le début du phénomène. Voilà donc le problème de la causalité engagé de toute part dans la succession temporelle, qui par elle-même semble bien étrangère à la notion de "cause". Mais passons.—Parmi les faits de la Nature, antérieurs ou simultanés, il faut choisir celui qui a produit le phénomène. La logique appliquée fournit quelques règles. La cause doit être proportionnée quantitativement: un léger craquement dans un meuble de bois ne sera pas expliqué par l'explosion hypothétique d'un arsenal voisin. Elle doit être appropriée qualitativement: on n'explique pas la décomposition d'un fruit par une espièglerie du diable. Enfin la cause doit être vérifiable; et l'on recourt à tous les procédés de Stuart Mill, qui éliminent les causes fictives et nous fixent sur une coïncidence permanente.

On aperçoit immédiatement toutes les réserves que la logique rigide opposera à ce procédé. Mais il y a davantage. Pour le naturaliste tout phénomène reste une énigme aussi longtemps qu'on n'en a pas découvert la cause. Il faut que la cause existe. Il faut qu'on la découvre. Le fait peut être unique: rien en effet ne garantit le retour dans le temps d'un événement quel-

conque. On peut n'en découvrir aucune cause adéquate. On l'analysera; comme il se passe dans la Nature, on lui découvrira toujours quelque vague analogie, réelle ou imaginaire, avec d'autres faits connus et " expliqués "; et beaucoup n'hésiteront pas à supposer que le phénomène extraordinaire doit être dû à la même cause, bien que celle-ci échappe à toute constatation expérimentale. Qu'on examine, par exemple, les grotesques explications des phénomènes mystiques que nous fournit Leuba!

Ce ne sont là d'ailleurs que des écarts provisoires, car les exigences de la logique reprennent toujours leurs droits. Il reste cependant que la causalité, qui dans les sciences préside à la systématisation de la Nature, est très sensiblement différente du concept qu'on découvre dans les affirmations spontanées du sens commun. Les sciences empiriques, en vertu même de leur méthode, ne peuvent plus affirmer la causalité proprement dite, qui n'est pas un fait d'expérience ou d'observation. Elles ne prétendent plus qu'un être donne l'existence à un être nouveau; elles doivent s'enfermer dans cette affirmation plus modeste: un phénomène, dans l'ordre de la Nature, suit d'une manière constante à tel autre phénomène, de manière que pratiquement [2] il suffit de produire celui-ci pour qu'on puisse attendre en toute confiance le premier. Cependant cette " causalité empirique " n'est pas une simple succession constante dans le temps. Elle implique un rapport de nature entre la cause et l'effet.—Et l'on peut remarquer ici en passant que ce rapport sera d'autant plus persuasif qu'il se rapprochera davantage d'un rapport de ressemblance. C'est très naturel; mais l'idéal de la ressemblance est l'identité, qui mènerait en dernière analyse

[2] On sait que Bergson ne veut reconnaitre aux sciences expérimentales qu'une valeur pragmatique, bien que dans leur évolution progressive elles iraient toucher " à l'infini " la connaissance du réel. Il y aurait bien des réserves à faire au sujet de cette doctrine; mais les rapports de " causalité " que l'observation de la Nature peut nous livrer n'ont, en effet, qu'une portée pratique.

au statisme universel, à la négation de la causalité. Ici aussi il y a une tension, une " *Spannung* " entre l'identique et le divers, qui semblent résulter tous deux de la causalité empirique.

Constatons d'ailleurs que presque toujours les naturalistes, qui sont contraints par leur méthode à s'en tenir à la " causalité empirique ", introduisent subrepticement la causalité du sens commun dans leurs conceptions synthétiques. Psychologiquement ils en sont dominés; et comme ils se refusent—c'est d'ailleurs leur droit—à toute analyse métaphysique, leurs convictions personnelles vont généralement au-delà du résultat logique de leur méthode. Ils sont parfaitement convaincus que l'eau qui se montre après le passage de l'étincelle électrique dans un mélange d'hydrogène et d'oxygène, a été " produite ", a reçu l'existence des gaz en présence et de leurs procédés de laboratoire.

Mais comme nous le disions tout à l'heure, la notion de " cause " du sens commun contient davantage. Elle pose très nettement la causalité " dynamique ", qui est écartée, ou négligée, par la causalité empirique. Le sens commun fait de la métaphysique sans le savoir. Il pose, sans l'ombre d'hésitation, que ce qui devient, ou est devenu, reçoit l'existence d'une cause distincte de l'effet. Mais nous savons que les concepts du sens commun sont toujours un peu sujets à caution. Ils se chargent d'images sensibles qui les rendent plus maniables pour le commun des mortels, mais qui aussi les altèrent au point de les rendre méconnaissables.

Il appartient au philosophe de les épurer; et nous constatons sans peine que la notion de " cause " en a grandement besoin. Comment se représente-t-on la causalité? Il est entendu, pour le sens commun, que la cause existe au préalable; et l'on conçoit la causalité dans le temps. L'effet n'existe pas d'abord; il existe ensuite en raison d'une opération de la cause. Il sort de la cause; d'où l'on conclut, par une de ces précipitations

habituelles au sens commun, que l'effet est *contenu* dans la cause. C'est la manière dont on conçoit généralement ce rapport de nature, que les sciences particulières introduisent dans la causalité empirique.

Mais examinons.—Les causes que nous déterminons dans la Nature produisent-elles tout l'être de l'effet?—Au moins la possibilité de l'effet est présupposée à l'opération efficace de la cause. Faisons abstraction de la possibilité physique de l'effet dans l'ordre de la Nature. Admettons, pour simplifier le problème, que tout concevable peut être réalisé dans notre univers; encore faut-il que l'effet soit un être possible. Or le possible n'est pas le néant comme le contradictoire. Il n'a assurément aucune existence; mais il a une réalité. Il est être, puisqu'il peut se concevoir; et il en résulte que d'une certaine manière l'effet *est* avant d'exister. La causalité se rapporte donc, par soi, à l'existence de l'effet. Elle présuppose sa possibilité qu'elle ne produit pas.

Nous touchons ici à un point délicat, qui a fait l'objet de controverses assez embrouillées. Le R. P. Franzelin, qui a bien mérité du problème qui nous occupe, reproche au professeur Geyser d'avoir soustrait à la causalité l'essence physique des effets.[3] Il y a là une embarrassante confusion. Malgré certaines expressions un peu risquées, peut-on imaginer que Geyser ait voulu affirmer que l'essence "physique" de l'effet est présupposée à la causalité, et que la cause lui applique l'existence? Mais il est de toute évidence que l'essence "physique", qui n'est assurément pas l'existence, n'est cependant

[3] B. Franzelin, *Die neueste Lehre Geysers über das Kausalitätsprinzip* (Innsbruck, 1924). Le professeur Geyser, de Münich, qui s'est attaché à l'étude de la causalité avec une admirable persévérance, a d'abord admis que le principe de causalité est analytique. Il s'efforçait de démontrer que le devenir sans cause est contradictoire. (Jos. Geyser, *Allgemeine Philosophie des Seins und der Natur*, Muenster, 1915). Plus tard (Jos. Geyser, *Erkenntnistheorie*, Muenster, 1922) il a cédé devant la critique. Il reconnait que le principe de causalité est synthétique, mais dans un sens particulier qui sera discuté plus tard.

" physique " que par l'existence.—D'autre part, est-il bien exact de dire que la cause produit l'essence de l'effet? Une essence, qu'elle soit physique ou idéale, ne se produit pas. C'est l'effet existant qui est produit; et il a évidemment son essence actualisée par l'existence.

Toute cette querelle semble résulter d'une conception un peu confuse de l'essence et de l'existence. Parce qu'elles se distinguent—et à notre sentiment cette distinction est tout ce qu'il y a de plus réel—on les hypostasie. On en fait deux êtres qui se fusionnent, on ne sait comment, dans la réalité unique de l'être actuel. La causalité se termine à un être qui est une essence existante. L'essence physique est produite, non comme essence, car cela voudrait simplement dire qu'on lui donne l'existence. L'être tout entier est produit par la cause; mais cette production se rapporte, dans sa notion propre, à l'ordre d'existence. En ce sens, Geyser n'a pas tort, et le R. P. Franzelin a raison. Ces notions seront d'ailleurs éclaircies davantage lorsqu'il s'agira du *principe* de causalité. Retenons pour le moment que la causalité est l'actualisation existentielle d'une essence.

Elle implique en outre une opération, une activité existante. Dans l'ordre des possibilités il n'y a aucune contingence. Or parmi les êtres finis l'existence est contingente. Nous voyons immédiatement se lever contre nous tous ceux qui n'admettent pas la contingence de l'univers. Nous aurons encore quelque chose à leur dire. Mais il ne s'agit pas de cela. Au moins l'effet produit, dût-on le réduire à un simple mode de la Substance spinozienne, est contingent. Il n'existe pas d'abord; il existe ensuite. Dire qu'il existe nécessairement, en face de pareilles constatations, est un non-sens.[4] Si donc on admet qu'il y a des causes, au sens dynamique du mot, il faut supposer

[4] On peut évidemment admettre qu'il devient nécessairement en raison de l'état actuel de l'univers. Mais il ne s'agit pas de cette nécessité physique. Nous appelons " contingent " ce qui n'existe pas en vertu de son essence, ce dont l'essence n'implique pas l'existence.

que l'effet contingent dépend, d'une manière ou d'une autre, de la cause. Une réalité contingente est produite par elle. Son opération même est donc contingente. Or dans l'ordre du possible il n'y a rien de contingent. Les possibles ont nécessairement toute la réalité qui leur convient. L'opération causale n'appartient donc pas à l'ordre des possibles, mais à celui de l'actualité existentielle.

Or l'opération, dans les êtres finis, est une de ces réalités atténuées qu'on appelle des " accidents ". Dans leur notion même, analysée par l'esprit, apparaît la notion d'un autre être qui n'est pas eux. Le mouvement local n'est certainement pas le mobile; mais qu'on essaie de le concevoir indépendamment du mobile! Ainsi l'opération indique très nettement l'opérant. Elle n'est assurément pas l'opérant même, qui n'affirme que sa propre essence, et éventuellement son existence; mais elle indique une fécondité qui dépasse l'essence même actuelle. La fécondité du rien est absurde; le rien n'a aucun attribut. Elle est donc la fécondité de quelque chose qui n'est pas la fécondité. Aucun dynamisme radical, ni celui d'Héraclite ni celui de Bergson, ne tient devant cette considération.[5]

L'opération causale appartient à l'ordre existentiel; et elle est un " accident ". Il est donc manifeste que son sujet, l'opérant, existe. Seul l'existant peut donner l'existence.

Nous n'affirmons pas encore que tout ce qui arrive à l'existence contingente suppose une cause existante. Mais la notion même de causalité, que nous analysons en ce moment, implique que l'objet dérive d'une cause existante préalable. A ce point de vue la notion vulgaire est irréprochable.

Où elle l'est moins—et certains métaphysiciens l'ont malheureusement suivie—c'est quand elle introduit dans la notion de cause celle de priorité temporelle. Que dans le monde ex-

[5] Ceux qui pensent à la causalité divine seront peut-être choqués de certaines de nos expressions. Nous ne considérons en ce moment que les causes finies au sein de notre univers. Nous ne négligerons pas de tout mettre au point plus tard.

périmental les causes précèdent leurs effets dans le temps, nous pouvons le concéder sans inconvénient, bien que rien ne le démontre à priori. Personne n'ignore que Kant a intimément lié la catégorie de causalité au temps, forme a priori du sens interne, au moins dans la causalité empirique. Son exemple a été contagieux; et certains philosophes, qui par ailleurs se livrent à de fines analyses, supposent que la causalité implique la succession temporellle. C'est une erreur. La cause est antérieure logiquement à l'effet; et comme la causalité appartient à l'ordre d'existence, l'effet ne peut pas exister avant la cause. C'est tout le rapport qu'il y a entre la causalité et la succession temporelle. Mais il ne s'ensuit pas que la cause doive exister avant l'effet. Windelband le constate; et il exagère même dans son étude de la causalité finale, puisqu'il n'hésite pas à placer un effet avant la cause.[6] Kant lui-même dégage la très réelle causalité nouménale, et notamment celle du caractère intelligible, de toute relativité temporelle.—Dans sa notion propre la causalité n'a rien à voir avec ce mode d'existence très particulier et très inférieur qu'est le temps. Elle n'implique que l'existence de la cause; et cette existence n'est pas nécessairement temporelle.

Mais tout être existant ne peut pas être cause de n'importe quel effet. Les sciences empiriques vont très loin dans cette voie; au bout de leurs tendances se trouve l'identité de nature de la cause et de l'effet; et ils n'hésitent pas à renverser la formule: "telle cause, tel effet," et à prétendre que tel effet est dû à telle cause. Au point de vue de la logique pure c'est évidemment excessif. Cependant l'expérience quotidienne révèle une proportion de nature entre la cause et l'effet. On n'attend pas des pommes de la causalité d'un caillou, ni un traité de métaphysique des vagissements d'un nourrisson. La cause doit être proportionnée qualitativement à l'effet, et l'on se trouve devant cette constatation: la cause doit posséder au

[6] Wilhelm Windelband, *Einleitung in die Philosophie* (Tuebingen, 1914.)

moins la perfection de l'effet. C'est ce qui s'oppose à toute explication du plus par le moins, que les évolutionistes pratiquent avec trop de confiance. Evidemment un père médiocre peut produire un fils de génie; mais on suppose, devant pareil phénomène, que d'autres causes, en dehors de ce qui fait la médiocrité du père, ont coopéré pour aboutir à ce résultat; et c'est ce que les évolutionnistes doivent supposer tacitement dans la construction de leurs séries évolutives.

Mais peut-on en déduire cette proportion entre la cause et l'effet a priori, par la notion même de causalité?—Nous croyons que oui; et il nous semble même qu'il n'y a là guère qu'une tautologie dissimulée. L'effet résulte d'une opération de la cause. Or cette opération est proportionnée à l'être de l'opérant, car elle est son " accident ".—Dans cette première constatation on peut ne voir qu'un déplacement du problème: pourquoi l'opération, effet immédiat de la cause, doit-elle être proportionnée à son être? Mais n'oublions pas que nous ne connaissons l'être des choses que par leurs opérations. Les êtres sont, pour nous, ce qui est le principe de telles opérations, et en dernière analyse de tels effets. Dire par conséquent que la cause doit être proportionnée à l'effet revient à affirmer que la cause produit tel effet. Il n'y a donc là rien de mystérieux; et à ce point de vue la notion vulgaire de la causalité est parfaitement exacte. Il ne s'ensuit évidemment pas que la cause ne peut avoir que la perfection de l'effet. On conçoit parfaitement qu'un être n'agisse pas toujours suivant toute la perfection de sa nature. Le moins ne peut pas le plus; mais le plus peut le moins: un beau noyer peut produire des noix, mais il peut aussi produire simplement de la chaleur lorsqu'on le met au feu; un philosophe peut faire un livre admirable, mais sans grand effort il peut aussi écrire des sottises. C'est pourquoi, si tel effet suppose une cause proportionnée, il ne s'ensuit pas que l'effet, comme tel, nous renseigne sur toute la nature propre de la cause. Ce renversement est pratiqué par

les naturalistes; et certains philosophes leur ont emboité le pas.—Evidemment, dans chaque opération particulière, la cause ne déploie que la perfection de son être manifestée dans son effet; et à ce titre la causalité ne dépasse pas l'effet. Mais cela ne nous permet nullement de juger de l'être foncier de la cause; et le renversement de la formule: " telle cause, tel effet ", doit être entouré de précautions. Il a conduit à d'intolérables abus.

Nous avons donc obtenu jusqu'à ce moment que la cause est un être existant qui " produit " l'existence d'une réalité possible. La succession temporelle est étrangère à la causalité, au moins dans ce sens que la cause ne doit pas précéder l'effet dans l'existence. L'effet ne peut pas précéder la cause dans le temps; mais il n'y a là, dans la notion pure de causalité, qu'une priorité logique. Enfin la cause doit avoir dans sa nature une perfection au moins égale à celle de l'effet.

Mais qu'est-ce que " produire " ou donner l'existence?—C'est ici que nous touchons du doigt le problème fondamental que soulève la notion de cause. C'est sur ce point que le " sens commun " s'abstient de toute analyse rationnelle, et la remplace par des images aussi arbitraires que déconcertantes. On n'est pas loin d'imaginer que l'effet est contenu dans la cause à peu près comme des noix dans un sac, et qu'il en sort comme l'oeuf de la poule.

Remarquons immédiatement que l'effet n'est pas, en toute rigueur, contenu dans la cause. Celle-ci possède sa nature, son existence, son opération; rien de plus. L'existence de l'effet, vrai terme de la causalité, n'existe certainement pas dans la cause, ne fût-ce que pour ce motif que dans ce cas l'effet " sortirait " de la cause, mais ne serait pas produit par elle. La production implique du nouveau, irréductible par équation à l'antérieur. Elle établit un rapport entre l'existence de l'effet et l'opération de la cause, Cette relation est de telle nature que l'effet n'existe qu'en raison de la cause opérante. Et même conçue de cette manière elle ne détermine pas complètement la

causalité. On conçoit que l'efficacité de la cause peut dépendre de circonstances multiples, de " conditions ", qui ne produisent assurément pas l'effet, mais sans lesquelles l'effet ne serait pas produit.—Cependant il est inutile d'insister beaucoup sur cette dernière considération. Les conditions déterminent certaines dispositions de l'être sur lequel opère la cause, ou de l'état de l'univers où doit se déployer son influence. La causalité, prise en elle-même, pose que l'effet existe *par* la cause; qu'une nouvelle existence prend naissance parce qu'une autre réalité existante a posé un acte relatif à cette existence. Nous ne pouvons pas aller au-delà. Toutes nos expressions verbales sont impuissantes à rendre adéquatement la fécondité de la cause; et l'on comprend que certains esprits se soient réfugiés ou dans la statisme paradoxal de Parménide, ou dans le dynamisme radical d'Héraclite et de Bergson.

Le professeur Hessen estime qu'un devenir sans cause est parfaitement concevable, et que dans se cas le monde reste incompréhensible—conclusion devant laquelle il no recule pas. Mais il semble imaginer que l'univers devient explicable si l'on admet la causalité, au moins dans la forme universelle que lui donne le *principe* de causalité. Nous ne tarderons pas de voir que le principe est analytique et par conséquent nécessaire. Mais quelle illusion de croire que l'explication du monde n'offre plus de mystère lorsqu'à chaque être fini et à chaque devenir on peut assigner une cause appropriée! Il est très vrai qu'on échappe à un tourment intellectuel immédiat: celui d'admettre qu'une chose devienne sans cause—ce que nous croyons inconcevable. Mais toute la difficulté se concentre dans la causalité même.

On a très justement introduit des distinctions opportunes dans le principe de raison suffisante, dont on a abusé fréquemment. Dans l'ordre logique il est au-dessus de toute discussion: un jugement quelconque doit avoir sa raison. Dans l'ordre de la réalité, dans l'être existentiel et le devenir, il coïncidé avec

le principe de causalité. La cause doit être la raison suffisante du devenir. Ce n'est assurément pas sur la nécessité d'une raison suffisante dans l'ordre logique qu'on peut s'appuyer pour affirmer le principe de causalité. Il y a là un passage " à un autre genre ", qui est un sophisme palpable. Mais il reste que la cause doit être la raison suffisante de l'effet.—Est-ce si simple?—Il y a là un être, n'ayant que sa nature propre et sa propre existence. Comment en tirer la raison suffisante d'une existence nouvelle? Il y a là une réalité d'une perfection limitée. Comment en tirer la raison d'une expansion du réel? car il est clair que la cause et l'effet constituent une perfection plus ample que la seule réalité de la cause.—On dira peut-être que la cause *opère*, et que l'effet est le résultat de son opération.—Autant de mots qu'emporte le vent. C'est là que gît la difficulté. C'est l'opération féconde dont on cherche la raison suffisante; et qu'on ne trouve pas dans l'être limité, déterminé, de la cause.

C'est la causalité qui est le grand mystère de la Nature. Notre esprit est régi par le principe d'identité. Une chose est elle-même; elle n'est qu'elle-même; et il est singulièrement difficile d'admettre une amplification de l'être, sans entamer la portée rigide et absolue du principe d'identité.

C'est dans cette considération que Kant a trouvé une base pour sa formidable thèse qui affirme le caractère synthétique du principe de causalité. D'un être on ne peut tirer par l'analyse que ce qu'il contient. L'effet n'est que l'effet, et ne contient pas la cause; la cause n'est que la cause et ne contient pas l'effet. Si nous rattachons effet et cause dans la systématisation de l'univers, ce ne peut être que par une loi qui régit notre esprit.

Bergson est réaliste, au moins dans ses intentions; mais la causalité lui parait inadmissible. La cause n'est posée que pour expliquer l'effet; et elle ne l'explique en aucune manière puisqu'elle ne le contient pas. Notre distinction de causes et d'effets n'a qu'une portée pratique. Elle n'est en réalité qu'un

fractionnement, opportun d'ailleurs, du devenir continu, de l'évolution créatrice. Le devenir fécond, voilà la donnée fondamentale de toute considération métaphysique. Nous faisons des coupures artificielles dans un jaillissement continu pour y adapter nos actions. Ce qui précède la coupure est appelé " cause "; ce qui la suit est l'effet. En réalité rien n'est, tout devient. C'est pourquoi il est illusoire de poser un être à l'origine de " l'élan vital "; car ce serait un *être*, une cause, chargée de toutes les impossibilités de cette notion.—Posons le devenir comme le fait primordial; il résiste à toute analyse ultérieure.

D'autre part, bien des monistes ne se dissimulent pas les difficultés qui alourdissent leur doctrine. La pluralité, la diversité, de l'univers, même si on la réduit à des " modes " ou à des points de vue phénoménaux, ne se laisse pas nier, et introduit un germe de dissolution dans toute conception moniste du monde. Mais il y a le devenir; il y a la causalité. Comment concevoir qu'un être puisse agir sur un autre être, distinct de lui-même? Les monades de Leibniz, " sans portes ni fenêtres ", ont du bon; c'est son harmonie préétablie qui est une fantaisie arbitraire. Voilà un être, constitué par sa nature, son existence individuelle, qui l'isole de tout autre. Imaginons qu'il opère; son action est évidemment sienne; elle est en lui. Comment comprendre qu'en raison de cette modification complètement interne un autre être, distinct du premier, soit modifié? Et ces modifications s'imposent par l'expérience. L'action étant interne, il faut bien supposer que la modification qui en résulte est interne. Modificateur et modifié ne sont donc qu'un seul être; et nous sommes fatalement acculés à une conception moniste du réel.

Reconnaissons sans ambages que la notion de causalité est beaucoup moins simple que ne le suppose le sens commun. Mais les positions du dynamisme radical et celles du monisme sont beaucoup plus embarrassantes. Il est très expéditif d'ériger le

devenir en fait primordial. On écarte de cette manière des difficultés troublantes, mais on pose devant l'esprit une énigme qui récèle des contradictions. Supposons que tout devienne, que rien ne soit. On n'admettra pas évidemment qu'il n'y ait qu'une succession d'êtres, sans aucun lien; car de cette manière on poserait de nouveau une infinité d'êtres; et on nierait le devenir. Il faut nécessairement qu'une chose devienne, qu'*une même chose* soit d'abord dans un état, et puis dans un autre. Et voilà déjà du permanent dans le devenir. Voilà une réalité qui *est* sous le devenir; quelque chose doit être et rester identique pour devenir.—Nous ne prétendons en aucune manière que dans le devenant il y ait un être immuable recevant les phases successives du devenir comme un vêtement qui s'y superpose. C'est là une conception enfantine, imaginative, qui détruit l'idée même du devenir. Nous admettons que dans une phase ultérieure du devenant on pourra ne plus rien découvrir qui soit resté identique à ce qui le constituait dans une phase antérieure. Tout en lui pourra avoir changé; mais c'est lui,—lui-même—qui est changé. Il est; et le dynamisme radical contient une contradiction interne.

Comment dès lors faire sortir l'autre de l'un? Le devenant est lui-même; il n'est que lui-même, car le principe d'identité régit tout le réel; sa négation est la négation de la pensée. Et cependant nous constatons que cet identique est modifié, que son être s'amplifie, qu'il est plus que lui-même.—La fécondité du "temps réel", de la "durée pure" ne nous sort pas d'embarras; elle n'est qu'un expédient inventé par Bergson à la faveur d'une singulière méprise. La durée, que nous n'avons aucune envie de confondre avec le temps des physiciens, n'est que la permanence dans l'existence; et l'existence ne modifie pas ce qui existe.—Le dynamisme radical, le devenir universel, n'est que le refus d'examiner le premier problème que nous pose l'évolution du monde.

Cette doctrine a d'ailleurs des accointances avec le monisme,

qui se base sur l'impossibilité de l'action transitive.—Le monisme est insoutenable; il se base sur la solidarité des choses dans l'univers, sur une union qu'il érige subrepticement en unité. Mais il ne faut pas se dissimuler que l'action transitive est mystérieuse. Le problème soulevé par le monisme nous révèle au moins un des aspects les plus embarrassants du concept de la causalité; et nous constatons une fois de plus que la "notion" de cause, ou le principe de causalité, ne suffit pas pour rendre "intelligible" le monde que nous avons sous les yeux.

Nous rappelons encore qu'à ce moment nous n'affirmons pas la causalité universelle dans l'univers; nous voulons simplement mettre en lumière ce qu'implique le notion de "causalité". Elle n'est pas simple; disons dès maintenant qu'elle ne se conçoit pas si on se limite à l'ordre des réalités finies.

Dans la cause on veut trouver la "raison" de l'effet; elle doit "expliquer" une amplification d'être. L'être fini ne l'expliquera jamais. Il n'est que lui-même; et l'on peut dire que l'effet n'y est pas contenu. On a dit qu'il y est "virtuellement". A moins de se payer de mots ou d'embrasser le dynamisme bergsonien, cela ne nous avance pas d'un pas. Là "contenance virtuelle" n'est pas autre chose que la cause elle-même qui n'est pas l'effet. On admettra au moins qu'entre l'existence "virtuelle" de l'effet dans la cause et son existence actuelle dans le monde, il y a de la marge. Il y a là une amplification d'être, d'actualité de l'être; et tout le problème surgit à nouveau.

Si l'on admet le principe d'identité, on doit l'appliquer à l'évolution, au progrès, à l'expansion de l'être comme à l'aspect statique des choses. Le monde est ce qu'il est; et voilà un nouvel effet qui surgit en lui! Son être est amplifié. Si l'on veut en assigner la raison, ce n'est pas dans le monde qu'on la trouvera. Le fini n'explique pas la causalité; celle-ci ne peut avoir sa racine que dans l'Infini.—Dire que l'Infini n'est aussi

que ce qu'Il est, est avouer qu'on tombe dans de singulières méprises. Il est clair que Dieu est Dieu; mais puisqu'Il est l'Infini nous supposons qu'on ne Lui refusera pas la fécondité.—On dit parfois que l'Infini exclut l'existence de tout fini, parce qu'on aurait l'Infini plus quelque chose, un plus grand que l'Infini. Mais c'est là une considération enfantine, comme on en trouve parfois dans le panthéisme grossier. Elle indique nettement qu'on se fait une idée peu précise du fini. C'est un peu moins raisonnable que de dire qu'en ajoutant une surface à un solide on aura un solide plus volumineux. On n'ajoute pas deux ordres d'être aussi radicalement différents que le fini et l'Infini.

Deux êtres ont leur propre perfection limitée, terminée en eux-mêmes. Si l'on suppose que l'un soit l'effet de l'autre, il faut nécessairement admettre une source de l'être, de l'expansion de l'être, qu'on ne trouvera jamais dans le fini. Il n'est pas vrai que le principe de causalité soit basé sur l'existence de Dieu, et que celle-ci se démontre par le principe de causalité, dans un irrémédiable cercle vicieux. Mais quand, par ailleurs, on tient la causalité, il faut fatalement en chercher la source dans l'être non-fini, dans l'Infini au sens propre du mot. L'être, comme être, ne peut trouver sa source première que dans l'Etre par essence. Il n'y a là aucun occasionalisme; rien n'empêche de considérer les réalités finies comme des causes véritables; mais elles ne peuvent l'être que par la vertu de l'Infini.—Nous constatons ici une profonde vérité que dans un admirable travail le R. P. Maréchal a mise dans une vive lumière:[7] il est impossible d'approfondir une notion métaphysique quelconque sans

[7] J. Maréchal, "Au seuil de la Métaphysique. Abstraction ou Intuition," *Revue Néo-Scolastique* (Février, 1929). Voilà bien de la philosophie "traditionnelle" en contact avec la pensée contemporaine. Nous nous demandons seulement si la savant auteur ne s'est pas un peu précipité dans son ascension vers l'Infini;—ce qui donne un vague reflet anselmien à la synthèse. Il semble parler de l'Etre divin où nous parlerions simplement de l'Etre, de celui qui est livré par l'idée pleinement évoluée de l'être.

découvrir ses attaches avec l'Etre, et même avec la plénitude de l'être, qui est l'Etre divin.

Et c'est là que nous trouvons le dernier mot que l'intelligence humaine puisse prononcer sur l'énigme de l'action transitive. " L'action de l'agent est dans l'être qui la reçoit "; c'est ainsi qu'on constate le fait. Mais comment est-il possible?—Dans notre univers la pluralité est indéniable, ne fût-ce que celle des incommunicables personnalités humaines. L'action est la perfection de l'agent; comment peut-elle être celle du patient? En appeler à l'expérience est très simple; mais la constatation du fait—si tant est qu'on puisse le constater—n'est pas encore le rendre intelligible. La causalité implique le divin. Dieu à coup sûr n'est pas le multiple; mais Il est la base et la source de tout être et de toute opération. Il est et Il opère dans le monde d'une manière plus intime que ne peuvent l'être toutes les unions suggérées par notre pauvre intelligence; et l'unité du monde, que nous caractérisons par des interdépendances expérimentales, trouve en dernière analyse sa base profonde dans l'unité de Dieu, qui donne à l'univers son être et sa fécondité. N'est-ce pas dans le divin qu'on doit chercher la source de l'étonnante communication de l'agent et du patient? Il n'y a là aucun miracle; la causalité transitive serait une des lois fondamentales de la Nature; mais elle est si fondamentale, qu'elle nous met en contact avec le fondement de tout réel, avec l'être infini de Dieu.—S. Thomas d'Aquin semble bien l'indiquer. Lorsqu'il examine l'influence de Dieu dans les causes finies, il ne la trouve pas seulement dans le fait qu'Il les a créées avec leur pouvoir opératif. Il ne se contente pas de noter que toute cause doit agir par sa vertu; mais il affirme que Dieu " applique " la cause finie à son effet.[8] Ne pouvons-nous pas voir dans ces paroles une allusion à la causalité transitive, qui ne trouverait sa dernière explication que dans la réalité divine?

De toute part nous voyons que la causalité, si elle existe,

[8] Cf. *De Potentia*, qu. 111, art. 7.

repose sur le divin, parce qu'elle appartient à l'ordre *d'être*. Nous répétons que cela n'exclut en rien l'opération propre des *êtres* finis ; nous verrons que leur existence ne se conçoit même pas sans un pouvoir opératif efficace. Mais ils ne peuvent opérer, et ils ne peuvent établir l'union mystérieuse qu'implique l'action transitive, que par une vertu divine.

La notion de " cause " nous mène bien loin, parce que nous la trouvons dans les profondeurs de l'être. L'existence de l'effet est " produite " par la cause ; elle est " par " la cause ; et cette causalité implique la vertu de Dieu.—Mais y a-t-il vraiment causalité dans l'univers ? Et cette causalité s'étend-elle à tout devenir, à toute existence finie ? Nous touchons ici le problème du " principe de causalité ", de sa nature et de sa portée.

II

Le Principe de Causalité

On affirme donc, en posant le principe de causalité, que cette causalité est universelle dans le dynamisme du monde. Pour échapper à toute équivoque, il importe d'écarter certaines formules qui prêtent le flanc à la critique, et parfois à la chicane.

" Tout effet a une cause ".—C'est ainsi que le vulgaire formule notre principe ; et on le retrouve sans explication suffisante, même chez des penseurs distingués, chez Wunderle par exemple. On fait observer qu'on appelle précisément " effet " ce qui est " produit par " une cause ; de sorte que le principe, sous cette forme, devient une tautologie enfantine. Tout au plus peut-on y voir le principe d'identité chargé arbitrairement d'une matière.—C'est très vrai. Cependant on ne peut pas supposer que des hommes réfléchis aient donné dans une naiveté aussi grotesque, et aient confondu le principe d'identité et le principe de causalité. Losqu'on conçoit l'effet, non comme " ce qui est produit par une cause ", mais comme le " contingent "

[9] G. Wunderle, *Grundzuege der Religionsphilosophie* (Paderborn, 1918).

ou comme " ce qui n'a pas l'existence en vertu de son essence ", il n'y a là aucune tautologie. C'est bien cela qu'apparemment ont voulu dire ces auteurs; et il faut être décidé à " chercher la petite bête " pour leur en faire un reproche. Evitons cependant cette formule qui peut être mal comprise.

" Ce qui commence reçoit l'existence d'une réalité existante préalable ".—Tout le monde reconnait la formule kantienne; et elle aussi appelle des réserves. Ce qui ne commence pas, ce qui existe mais a commencé, n'a-t-il plus de cause?—Ce n'est là évidemment qu'une vétille; mais on ne saurait être trop prudent en ces matières délicates.—Il y a d'ailleurs un autre motif pour écarter cette formule: c'est que la causalité n'a rien à voir avec un commencement dans le temps. Nous savons que l'effet ne peut pas exister avant la cause; mais si la cause n'a pas " commencé ", on ne voit plus du tout pourquoi l'effet impliquerait, au moins à ce titre, un commencement quelconque.

On n'arrive à une formule satisfaisante qu'en écartant toute catégorie particulière, et notamment celle du temps. Il faut résolument se placer sur le terrain de l'être, puisqu'il s'agit de la notion d'existence, acte universel de toute réalité. Nous n'exemptons pas l'essence " physique " de la causalité. Le R. P. Franzelin n'a pas eu tort d'y insister. Elle aussi est " produite ", mais cela veut dire qu'elle reçoit l'existence. Dès lors le principe de causalité s'énonce: *Tout ce qui par son essence n'implique pas l'existence la possède par une cause.*

Et qu'on remarque bien les rapports logiques entre les deux termes. Dans l'ordre d'existence l'effet postule la cause; mais la cause ne postule pas l'effet. Evidemment, si on la considère comme *cause* elle entraîne l'existence de l'effet, puisqu'elle n'est cause que parce qu'elle produit son effet. Mais c'est l'existence de l'effet qui nous impose la cause—si le principe de causalité est vrai;—l'existence d'un être qui peut être cause ne nous impose pas l'effet.—D'autre part lorsqu'on considère l'essence, le " Sosein ", de l'effet et de la cause, de la nature de la causalité

actuelle on peut conclure à la nature de l'effet ; c'est même là une simple tautologie. Mais de l'essence de l'effet on ne peut pas toujours déduire toute l'essence de la cause. Rien ne démontre que la cause doive agir suivant toute sa perfection : le plus peut produire le moins. " Tel effet, telle cause " est peut-être un renversement nécessaire dans l'emploi de la causalité " empirique " ; rien ne nous autorise à l'introduire dans la causalité " métaphysique ".—Bref, *dans la causalité même*, les deux termes, cause et effet, sont corrélatifs quant à leur essence et à leur existence. Mais quant à l'être de ce qui est cause et effet, celui-ci entraîne l'existence d'une cause suffisante : il ne nous renseigne pas nécessairement sur toute la perfection essentielle de la cause.

Le sens du principe étant ainsi déterminé, demandons-nous s'il est universel, indépendamment de tout postulat ou convention—s'il est nécessaire c'est-à-dire, au fond, s'il est analytique. Nous croyons, en effet, qu'une proposition vraiment synthétique ne peut jamais être nécessaire et universelle. Il y a là un point qui mérite quelque considération.

On répète sans cesse que l'induction, basée sur l'expérience, n'arrive jamais à la nécessité et l'universalité complètes. Les propositions inductives ne seraient universelles que " dans les limites de l'expérience " ou " pour autant que l'expérience les garantit ". Or il est clair que l'expérience est contingente et particulière. Qu'on la multiplie sans cesse, jusqu'à la fin des temps, jamais elle n'atteindra l'universalité.—A notre sentiment il y a là une méprise, parce que certaines propositions inductives, basées sur l'expérience, deviennent analytiques, nécessaires, universelles. La relativité de leur portée se trouve ailleurs.

Un jour Lavoisier a brûlé du diamant dans un courant d'oxygène ; et il a constaté que cette pierre précieuse, parfaitement connue avant lui par des propriétés stables, est du carbone cristallisé. Humphrey Davy a complété l'expérience par des déter-

minations quantitatives; et il a conclu, par la mesure de l'acide carbonique, que le diamant n'est pas autre chose que du carbone cristallisé. Voilà bien des faits expérimentaux. Y a-t-il un homme sur la terre, ayant pris contact avec les éléments de la chimie, qui doute un instant de la vérité de cette conclusion scientifique? et nous croyons bien que ces expériences n'ont pas été répétées un grand nombre de fois! Si l'on découvrait un minéral ayant la transparence, la réfringence, la dureté, la densité, tous les caractères par lesquels on déterminait le diamant avant l'expérience de Lavoisier, mais ne livrant pas de l'acide carbonique pur par sa combustion dans l'oxygène, personne n'hésiterait à dire que pareille pierre n'est pas du diamant. Celui-ci est nécessairement, universellement, du carbone cristallisé.—Pourquoi?—Parce que cette proposition est devenue analytique. Dans la notion même de diamant est désormais contenue celle de carbone cristallisé.

Evidemment il y a là quelque chose de conventionnel. Il est entendu qu'au groupe de caractères expérimentaux, préalablement connus, il faut désormais ajouter celui de " carbone cristallisé ". Il est manifeste que cela ne nous met pas à l'abri des surprises: qu'on se rappelle les cygnes noirs d'Australie. On doit alors procéder à de nouvelles classifications.—Mais il reste acquis, et cela au moyen de l'expérience et de l'induction, que le diamant ne peut pas ne pas être du carbone cristallisé, que l'induction aboutit à l'universalité, et produit des propositions analytiques. Il est vrai qu'une certaine " convention fondée " supporte ce résultat; et c'est là que gît la relativité des sciences inductives; c'est là ce qui révèle la vanité du positivisme absolu. Mais qu'on ne cherche pas cette faiblesse dans une portée restreinte de certaines acquisitions scientifiques.

De la même manière l'induction aboutit à des propositions qui régissent le dynamisme, les activités proprement dites de l'univers. Nécessairement, parce qu'analytiquement, l'air humide agit sur le fer et produit la rouille. Et l'on peut dire

que le principe de causalité " empirique ", dont se servent les naturalistes, n'est que la proposition analytique la plus universelle, qui par " convention fondée " régit la Nature.

Cependant il est manifeste à tous les yeux qu'il y a là un postulat des sciences, qui résiste à toute justification logique, lorsque du rang de principe méthodique on veut le transférer dans la réalité objective. Pour que le principe de causalité puisse dépasser le niveau des postulats, pour qu'il apparaisse comme purement analytique, purement rationnel, il faut qu'il échappe à toute convention, et s'affirme avec toute la nécessité de l'être.

Une autre constatation est ici de mise pour éviter toute équivoque. On sait que Kant a mis en vogue les " synthétiques a priori ". Des propositions dont le prédicat ne résulte pas de la notion du sujet s'imposent à l'esprit comme universelles avec une inéluctable nécessité. Tout le monde connait son exemple fameux: $5 + 7 = 12$. Il est parfaitement vrai que $5 + 7$ n'est pas 12, que l'union n'est pas l'unité. Mais la proposition: $5 + 7 = 12$ n'affirme pas cela. Elle ne dit pas que $5 + 7$ *est* 12; ce serait faux d'ailleurs, car le sujet ne pose que $5 + 7$. Mais on affirme que $5 + 7$ est " égal à douze ", ce qui est tout autre chose et ce qui est parfaitement contenu dans le sujet. Celui-ci ne contient pas seulement les nombres 5 et 7; il pose *l'addition* de 5 et 7. Il contient la notion de nombre, de cinq, de sept, et de l'addition. En considérant tout cela, en l'analysant jusqu'au bout, on y trouve parfaitement le prédicat " égal à douze ". Le nombre est l'unité mentale d'une multiplicité homogène discrète. " Cinq " détermine cette multiplicité dans un cas; " sept " dans un autre cas. Nous n'ignorons pas qu'il y a là des problèmes; mais tout cela est très nettement posé par le sujet. Celui-ci contient également le concept de l'addition. Or l'addition, si familière aux enfants des écoles primaires, est cependant un sujet de sérieuse méditation. Nous ne pouvons pas nous livrer ici à son analyse complète. Conten-

tons-nous de la définir: l'addition est l'opération intellectuelle, par laquelle on dissout l'unité mentale de deux ou plusieurs nombres, et l'on réunit toute leur matière sous une unité mentale supérieure. C'est moins simple que de dire que l'addition nous donne la somme de plusieurs nombres; mais elle est bien cela.

Et tout cela est contenu dans le sujet: $5 + 7$. Ce sujet indique une tendance, une opération, un dynamisme, qui est évidemment caractérisé, "spécifié" par sa fin. Indiquer cette fin c'est évidemment dire ce qui est contenu dans le sujet. Or c'est bien là ce que fait le prédicat, qui n'est pas le nombre 12, comme Kant semble le supposer, mais bien "égal à douze". Envisagé sous cet angle, soumis à une analyse complète, la proposition: $5 + 7 = 12$ est bien analytique; et nous croyons qu'il en est ainsi pour toutes les synthétiques a priori de Kant, qui sont vraiment universelles et nécessaires. Nous espérons montrer qu'il en est ainsi pour le principe de causalité.

L'exemple de Kant a été contagieux; et l'on parle de synthétiques nécessaires où l'on s'y attend le moins.—Comme nous le notions tout à l'heure, le professeur Geyser, par exemple, a admis d'abord que la principe de causalité est analytique. Certaines difficultés l'ont ému; et il a fini par admettre que le principe est un jugement synthétique, qui d'ailleurs ne perd pas pour autant sa nécessité. Mais le distingué philosophe de Münich semble avoir une idée très personnelle sur les propositions analytiques.—Y a-t-il rien de plus disparate que les notions de quantité et de couleur? Torturez de toute manière la notion pure de couleur, jamais vous n'en tirerez celle de quantité. La proposition: "la couleur est quantitative" est donc certainement synthétique. Or elle est manifestement nécessaire: comment en effet concevoir la couleur sans la quantité? La couleur s'évanouit au moment où la quantité disparait. Elle est nécessairement liée à la quantité; et la proposition: "la couleur est quantitative" est absolument nécessaire.—Voilà

donc un jugement synthétique nécessaire; et le principe de causalité est de même nature.

Nous croyons qu'il y a là une erreur, et que la proposition: " la couleur est quantitative " est nécessaire exactement dans la mesure où elle est analytique. Que la notion pure de couleur, dans sa détermination spécifique, soit étrangère à celle de quantité, nous l'admettons sans réserve. Nous y insistons même: les qualités ne sont pas quantitatives, comme qualités. Une surface rouge peut perdre la moitié de sa quantité; ce qui reste ne sera pas moins rouge que le tout.—Mais peut-on étendre cette constatation à tout ce que la couleur implique intrinsèquement? Nous ne prétendons pas la définir: car la couleur est une donnée empirique immédiate, un de ces " irrationnels ", qui constitue une tâche éternelle pour les néo-kantiens de l'école de Marburg, une " *Aufgabe* ", contre laquelle s'émoussera tout le fil de leur idéalisme. Si nous parlons de couleur, il est cependant impossible de détacher cette notion de la vue; c'est uniquement par notre action visuelle que nous pouvons la caractériser. La couleur, dans le concept que nous en avons, implique la perception sensible. Est-ce que celle-ci n'implique pas le quantitatif?—Et la couleur même, intrinsèquement, par sa nature propre, appartient à l'ordre corporel. Elle contient donc, ou elle postule, en vertu de sa notion, ce qui est essentiel à la nature corporelle. Nous croyons bien que le corps implique la quantité. Kant croyait même qu'il implique l'étendue quantitative—ce qui nous parait exagéré. Dès lors, la proposition: " la couleur est quantitative " est nécessaire sans doute; mais c'est parce qu'elle est analytique: la couleur implique analytiquement l'ordre corporel; celui-ci implique analytiquement la quantité.

Lorsque nous affirmons que le principe de causalité est analytique, deux excès opposés doivent être évités. Les analytiques à base inductive ne peuvent pas nous suffire; et d'autre part nous considérons ce qu'on appelle les " synthétiques néces-

saires " comme parfaitement analytiques. N'exigeons donc ni trop, ni trop peu.—Mais il reste acquis que le principe de causalité doit être analytique, pour qu'il soit nécessaire et par conséquent universel.

Si tel est bien le cas, la causalité ne peut se rattacher à aucune catégorie particulière d'être. Evidemment des jugements analytiques se forment dans chaque classe de réalité: " le rouge est une couleur " est analytique assurément. Mais le principe de causalité affirme que tout ce qui devient, et tout ce qui est devenu, reçoit son existence d'une cause. Il s'étend par conséquent à tout ce dont l'essence n'implique pas l'existence, c'est à dire à tout le fini. Dès lors le principe de causalité doit résulter de l'idée de l'être, ou il n'est pas analytique.

Nous croyons pouvoir supposer que " l'être est ". C'est là le point de départ de toute métaphysique, dont l'objet est plus solide, plus certain, que celui de n'importe quelle autre science, parce qu'il s'affirme jusque dans sa négation. Et nous pouvons affirmer, non seulement l'être, mais même l'ordre existentiel de l'être; car il nous est donné dans la pensée même. C'est là le sens inébranlable du principe: " Cogito, ergo sum ", dont Descartes a fait un usage si étrange. Il a une portée énorme, si on le dégage de certaines défaillances dans l'expression—ce n'est pas un enthymème, et Descartes le savait—et si l'on n'y voit que l'affirmation de l'ordre existentiel. Malgré les tendances volontaristes du moment, le principe de Descartes vaut mieux que celui de Maine de Biran: " Volo, ergo sum "; car la volonté ne nous permet *d'affirmer* l'existence que pour autant qu'elle est connue, pour autant qu'elle devient l'objet du " cogito ".

L'être est donc acquis. Où et comment l'acquérons-nous?—Nous touchons ici à un point dont on ne pourrait jamais exagérer l'importance.

L'objet de l'intelligence est l'être, non seulement parce que tout ce qu'on conçoit est *être,* mais parce que tout objet conçu

se détache sur l'idée de l'être. Celle-ci est certainement acquise; rien ne nous autorise à la considérer comme innée; mais une fois acquise, elle est en quelque sorte la " forme a priori " de toute conception intellectuelle ultérieure.

C'est là le résultat de l'abstraction déterminative.[10] Si l'imagination représente les êtres sensibles, l'intelligence conçoit d'abord " *ce qu'est* " l'être sensible. C'est là son objet immédiat, en raison de ses rapports essentiels avec la sensibilité. L'imagination tend spontanément à unifier ses objets en " images génériques ", mais ces images appauvrissent singulièrement la réalité, et nous conduisent à un schéma à peine saisissable. Le concept n'appauvrit rien; il épure l'objet de toutes les réalités adventives qui l'alourdissent dans le concret. Il représente " ce qu'est " l'objet: il est cela; il n'est que cela. Il le détermine; il le *termine;* il le distingue de ce qui n'est pas lui. N'est-il pas évident dès lors que la conception intellectuelle implique la distinction de l'objet vis-à-vis de tout ce qui n'est pas lui, de tout excepté lui? Il n'en faut pas davantage pour comprendre que l'objet conçu entraîne la représentation, vague assurément et indéterminée, de tout ce qui n'est pas lui, c'est à dire de l'être total. On le limite dans l'Etre; on l'y découpe en quelque sorte, parce qu'en raison de la sensibilité, de " l'irrationel " qui vient du dehors, il est la seule portion d'être déterminé, dans l'immense conception indéterminée de l'Etre.

Nous croyons d'ailleurs que cette idée d'être, formant le fond de toute conception intellectuelle, est la source des propriétés étranges que les objets acquièrent par la conception intellectuelle. Ils sont universels, nécessaires, éternels, parce qu'ils

[10] Nous nous sommes expliqués plus amplement sur cette abstraction dans un article de la *Revue néo-scolastique de Philosophie* (1929). Nous l'avons distinguée d'autres opérations abstractives qui elles aussi, ont un rôle à remplir dans la vie intellectuelle. Nous croyons d'ailleurs que ce sujet mérite d'être repris. Il a une importance considérable dans la psychologie, dans la théorie de la connaissance et dans la métaphysique.

sont conçus dans l'être, qui est au-dessus de toute contingence et de toute succession temporelle.—C'est la conception des êtres dans l'Etre qui peut expliquer les ahurissantes et stériles tentatives de l'idéalisme radical, de celui de Hegel, de Hamelin et de Benedetto Croce.

Nous concevons ainsi l'Etre, par le bon motif que nous ne concevons rien que dans l'idée de l'être. Cette forme fondamentale—non pas de notre intelligence, mais de toutes nos acquisitions intellectuelles—mérite toute notre attention. Que représente-t-elle?

L'être est tout ce qui n'est pas rien. Il n'est donc pas un genre suprême qu'on obtient par indétermination successive; c'est là un concept de l'être, malheureusement très répandu, mais qui est absolument faux et fallacieux. Les déterminations de l'être sont des réalités; elles sont de l'être; et l'on ne conçoit pas un objet en le dépouillant de ce qui lui appartient. L'être comprend toutes ses déterminations, virtuellement pour notre intelligence, réellement en lui-même. Notre progrès intellectuel se réalise en saisissant l'être sous des aspects de plus en plus nombreux; mais ces aspects sont en lui. S'ils n'y étaient pas nous ne pourrions pas les concevoir; car nous ne pouvons atteindre que l'être. Le néant ne s'atteint pas.

C'est ainsi que l'intelligence nous fait passer de plein pied dans l'ordre métaphysique. Lorsqu'on conçoit ce qu'est une chose, par abstraction déterminative, on s'élève évidemment au-dessus du " physique " qui ne livre que des phénomènes actifs du concret. Et par là même nous concevons l'être, objet propre de la métaphysique. L'abstraction déterminative est—pour nous servir d'une expression heureuse du R. P. Maréchal—le " seuil de la métaphysique."

L'être est tout. Mais l'expérience—au moins le " cogito " de Descartes—nous le montre en degrés différents d'actualité. —Le simple " concevable " n'est pas le néant; nous ne lui donnons pas la réalité en le concevant, nous ne le constituons

pas par la pensée. La pensée humaine le présuppose; nous sommes déterminés intellectuellement par lui. Il n'est certainement pas existant: " deux et deux font quatre " n'existe pas plus que " deux et deux font cinq ". Mais le premier est " concevable "; le second ne l'est pas. " Concevable " est un prédicat, inapplicable au néant, qui n'en a aucun. Nous sommes donc contraints d'admettre que le simple concevable, inexistant, est un réel antérieur à toute pensée humaine. Tels sont tous les objets que nous concevons à l'état abstrait.

Cependant dès que nous les concevons, ils se trouvent dans un état supérieur d'actualité. Il n'a plus seulement sa réalité propre; il est là, dans l'intelligence. Il n'est plus simplement concevable; il est conçu intellectuellement. Il emprunte à l'intelligence quelque chose de son actualité; car l'intelligence *est* ce qu'elle conçoit. Il ne possède pas pour autant l'actualité existentielle de l'intelligence, car il ne s'y trouve qu'objectivement. Mais il s'y trouve avec plus d'actualité qu'il n'en possède par lui-même. Il a acquis une actualité " idéale ", qui n'appartient pas à son ordre propre de concevable.[11]

Il y a une actualité supérieure, que possèdent bien des concevables, et qui pour tout esprit refléchi constitue un mystère saisissant. C'est celle de *l'existence.* Les " concevables " réalisés dans l'univers nous posent devant un formidable problème. Rien de fini n'implique l'existence; et beaucoup de finis existent. Ils possèdent une actualité absolument étrangère à leur ordre; et c'est ce qu'on entend par la " contingence " des êtres du monde. On a beau prétendre que la contingence de l'univers n'est pas démontrable. On a beau épiloguer sur la contingences des parties et la nécessité du tout. Dès qu'il est

[11] C'est tout ce qu'il y a de solide dans certains systèmes idéalistes, comme celui de Cohen et de l'école de Marburg, qui prétendent que l'esprit est actif et constitue son objet. L'esprit est actif sans doute; mais il donne à son objet l'actualité " idéale "; l'objet est actuellement conçu. Où reste son actualité existentielle qui nous est livrée dans la pensée elle-même?

question de parties, le tout ne peut être que fini; et c'est le fini, comme tel, qui n'implique pas l'existence. Il est un être particulier dans l'Etre. Il *a* l'existence; mais il est une chose qui existe; et dès lors il *n'est* pas son existence. D'où vient cette actualité? On a prétendu qu'elle ne doit venir de nulle part, que si l'on en cherche la source on suppose le principe de causalité, qui est précisément en question. On a dit qu'un fini existant sans cause est peut-être incompréhensible, mais qu'il n'est pas inconcevable.—Ce n'est pas vrai. 'Il est absolument inconcevable, parce qu'il est contradictoire qu'une chose soit elle-même, qu'elle ne soit qu'elle-même, et qu'elle soit plus qu'elle-même. L'existence n'ajoute rien à la nature qui existe: un homme existant est ce qu'est un homme conçu; et il n'y a théoriquement aucune nécessité qu'il soit davantage. Mais prétendre que l'homme concevable ou l'homme conçu sont identiques, quant à leur actualité, à l'homme existant, c'est nier la pensée. Nous craignons bien que ces auteurs, qui prétendent concevoir l'existant fini en lui-même, ne se contentent de constater un fait, en négligeant de le rationaliser. C'est là la négation de la philosophie, au même titre que ces " philosophies de la vie " qui se complaisent dans le chaos, et qui ont provoqué la colère justifiée de Rickert.[12]

Les êtres finis, et l'univers tout entier, n'appartiennent par eux-mêmes qu'à l'ordre des concevables. Et ils sont existants! Nous constations tout à l'heure que par la pensée le concevable devient le conçu. Il acquiert une actualité qui n'appartient pas à son ordre, mais qui n'est pas l'actualité existentielle. Voici donc, dans l'existant, une actualité supérieure, indépendante de notre pensée. Ce fait nous permet au moins de soupçonner que le monde a été *pensé* par une intelligence, infiniment plus puissante que la nôtre, qui par sa pensée confère au concevable l'actualité existentielle.—Mais passons.

Où trouverons-nous enfin l'être qui par sa nature même im-

[12] Cf. Heinrich Rickert, *Die Philosophie des Lebens* (Tuebingen, 1922).

plique l'actualité existentielle, un être qui *est* son existence, dans lequel l'existence serait concevable par elle-même?

Rien de fini ne peut le fournir. L'existence est une actualité s'étendant à l'être entier. On ne peut *être* l'existence actuelle qu'en étant la totalité de l'Etre. Rien n'est son essence partiellement; l'homme n'est pas une partie de l'homme; pour être homme il doit réaliser la nature humaine tout entière. Aucune réalité ne se limite par soi. La limite d'un réel est la négation même de sa réalité ultérieure; et il est inconcevable qu'un réel, en vertu de son être, se limite lui-même. Le fini n'ayant qu'une existence limitée, celle-ci n'étant que l'actualité de son essence, aucun fini ne peut être son existence. C'est dans ce sens qu'on dit que l'existence est limitée par l'essence du fini.[13]

En réalité, prise dans son concept propre, l'existence est d'ordre divin. Par une opération naturelle de notre intelligence, par une espèce d'abstraction " intégrative ", qui écarte les limites des essences particulières, nous arrivons à l'Etre tout court, à la plénitude de l'être, qui synthétise en soi tout mode d'être. Cet Etre est l'Etre; il *est* toute actualité d'être. La simple expérience immédiate, même si elle s'enferme dans les limites de notre conscience, nous révèle déjà une gradation dans l'actualité. Nous avons l'actualité idéale du conçu; nous avons l'actualité existentielle de notre pensée. Cette existence est évidemment proportionnée à la perfection de l'essence qu'-

[13] Il y a là une formule, fréquemment employée, qui peut être mal comprise. On imagine parfois que la réalité de l'être fini est son actualité existentielle, à laquelle l'essence vient mettre des bornes. C'est bien ainsi que certains défenseurs de la distinction réelle de l'essence et de l'existence semblent concevoir leur doctrine. C'est évidemment une erreur. L'être de la réalité finie est constitué par son essence même, que l'actualité existentielle transporte dans un ordre qui n'est pas le sien. On comprend dès lors pourquoi le R. P. Franzelin proteste quand, d'une manière très équivoque, on affirme que seule l'existence est produite. En ces matières le langage humain trébuche facilement; mais s'il veut dire que l'essence constitute l'être propre du fini, qui est actualisé par l'existence, il a parfaitement raison.

elle actualise. Celle que nous trouvons dans les choses sensibles et en nous-mêmes est singulièrement restreinte; elle ne se déploie pleinement que dans un présent sans durée. Dans les essences supérieures elle doit être plus large, plus profonde, plus intense. Et dans la plénitude de l'être, nous savons au moins qu'elle s'identifie avec l'essence sans bornes, que l'Etre total n'a pas son existence, qu'Il *est* son existence. C'est pourquoi S. Thomas affirme que la proposition " Dieu existe " est *" per se nota quoad se "*. Si elle n'est pas *" per se nota quoad nos "*, c'est parce que *" nos non scimus de Deo quid est "*, parce que nous ne soupçonnons son essence que dans une vague et laborieuse analogie.

L'actualité existentielle est divine; l'univers qui existe contient quelque chose de divin qui est l'existence. Les choses existent parce que Dieu existe. Leur existence, qui n'appartient pas à leur ordre, qui en toute rigueur n'appartient qu'à Dieu, implique un rapport à autre chose qu'elle-mêmes. Elles sont parce que Dieu est, parce qu'elles participent à son actualité infinie. Et c'est tout ce qu'implique la causalité. Rien de fini ne peut exister qu'en vertu de l'actualité divine. La causalité s'étend à tout être fini, à toute modalité d'être qui jouit de l'actualité existentielle. Le principe de causalité est donc universel. Il s'étend à tout ce qui existe sans être son existence. Il est analytique, parce que la seule analyse du fini existant nous révèle l'existence, qui par soi est divine.

Et qu'on ne vienne pas nous parler de cercle vicieux! Qu'on ne dise pas que nous établissons le principe de causalité en nous basant sur l'existence de Dieu, sauf à établir celle-ci au moyen du principe de causalité. Ce serait de l'enfantillage. Nous ne considérons que le fini existant; nous y découvrons autre chose que lui-même, et nous constatons que cette existence implique un rapport essentiel à l'Infini. Ce qui est vrai, c'est qu'il est impossible d'analyser la notion de l'existence sans y découvrir la notion de la plénitude de l'Etre; et qu'il est im-

possible de constater l'existence actuelle du fini, sans en conclure à la sur-actualité existentielle de Dieu.

Nous croyons d'ailleurs que c'est la seule voie qui puisse nous mener rationnellement à cette conclusion. Il parait de bon ton, dans certains milieux, de jeter le discrédit sur le raisonnement métaphysique. On ne nie pas Dieu pour autant; mais on prétend le saisir dans une " expérience vitale ". C'est là une des illusions les plus dangereuses qu'on puisse imaginer.[14] Lorsque nous avons acquis l'existence de Dieu, ne fût-ce que par voie d'autorité, nous sommes en possession d'une idée singulièrement saisissante, qui peut avoir une répercussion énorme dans toute notre nature, y compris la sensibilité. Nous en serons bouleversés parfois, comme aucun autre objet ne peut nous émouvoir; et cet ébranlement de toute notre nature peut aller jusqu'au " sentiment de présence ".—Est-ce là " vivre Dieu " ? Est-ce la constatation expérimentale de son existence ? N'importe quel psychologue nous apprendra que dans ce cas nous vivons *l'idée* de Dieu, qui doit au préalable chercher ailleurs ses garanties objectives.—Parfois le mystère du monde et de la vie nous saisit à la gorge, et nous fait vaguement soupçonner un au-delà du monde expérimental.—Faudra-t-il décorer ces abîmes, subjectivement sentis, du nom de Dieu ? Si cela peut contenter une âme de poète, nous nous en réjouirons pour lui, non sans remarquer cependant, à part nous, que les convictions de poète ne coûtent pas beaucoup; et valent probablement ce qu'elles coûtent. Toutes ces " expériences vitales " sont fort intéressantes, et peuvent être pratiquement très précieuses pour certains esprits. Mais tout cela n'est que la matière brute, le point de départ de la philosophie. Celle-ci doit *rationnaliser* le réel. Elle se trouve au-delà des " expériences vitales " toujours subjectives. Elle est une science, une élaboration intellectuelle de l'objet.—Qu'on dise que cette

[14] Nous faisons abstraction des phénomènes mystiques, dont l'interprétation est un sujet de discussion pour les théologiens. Ces faits mystérieux n'ont rien à voir dans le présent débat.

philosophie n'embrassera jamais la totalité du réel, qu'elle est stérile pour la direction de la vie. Nous discuterons peut-être; mais cela ne change rien à sa nature. Son objet est le Vrai rationnel.

Nous ne vivons Dieu que lorsque nous le possédons déjà par l'intelligence; et nous ne pouvons Le saisir avec une entière certitude que lorsque nous nous appuyons sur l'existence du fini, reflet étincelant de la sur-actualité divine.

Il est vrai que pareille démonstration ne satisfait pas tous les esprits—ce qui soulève peut-être un problème au sujet de ces esprits. N'a-t-on pas prétendu que de cette manière nous n'obtenons que la plénitude de l'Etre, mais que ce n'est pas là un Dieu " personnel ". Il faudrait démontrer qu'Il est aussi la plénitude du Bien. La " personne " n'est pas caractérisée par la perfection de son être: un mal de dent—ce n'est pas nous qui inventons l'exemple—absolument parfait dans son être, n'en est pas moins une horreur. La " personne " est " *Wertverwirklichung bzw. Wertwirklichkeit* "; elle est une Valeur et une source de Valeurs. La philosophie scolastique porte dans ses flancs une cause d'irrémédiable impuissance. Elle ne saisit pas, et ne peut pas saisir la notion de Valeur. Sa plénitude d'être, qu'elle appelle le Dieu infini, peut tout aussi bien être un " *Teufel* ", une infinité diabolique.

C'est là, en effet, qu'on arrive lorsqu'on établit une cloison étanche entre l'ordre ontologique et l'ordre des Valeurs. On a formulé une nouvelle définition de la personnalité; et il est entendu que ce qu'une " philosophie des Valeurs " daigne établir doit être accepté par tout le monde comme un indiscutable axiome. On a tonjours cru qu'une " personne " est un être complet en soi, indépendant dans son existence et son action. La personne est " *sui juris* "; et c'est pourquoi la personnalité ne se réalise que dans les êtres libres. Les théoriciens des " Valeurs " ont changé tout cela; et ils ne voient pas que précisément de cette liberté doivent jaillir les Valeurs.

Et il nous faut croire aussi, puisque les philosophes des " Valeurs " l'affirment, que tout scolastique est absolument imperméable à la notion de Valeur. Il est donc bien entendu que S. Thomas n'a pas connu la hiérarchie des êtres, où le supérieur synthétise, dans la simplicité de sa nature, les perfections dispersées dans les inférieurs. Jamais il n'a parlé du "*maxime tale*", auquel nous mènent idéalement les degrés ascendants du réel. Il n'a jamais dit un mot de la conquête du Vrai par l'intelligence et de celle du Bien par la volonté morale. A moins que tout cela n'ait aucun rapport avec les Valeurs découvertes par l'école badoise!

Ne plaisantons pas. Reconnaissons que les théoriciens des Valeurs, depuis Windelband jusqu'à Rickert et Scheler, ont mis en pleine lumière un aspect particulier du réel, et qu'ils ont dit de belles et grandes choses à ce sujet. Quelques-uns d'entre eux ont abouti à des conclusions surprenantes: les Valeurs sont réelles, mais elles n'existent pas. Dieu, ou l'Absolu, est la suprême Valeur; Il est réel, mais Il n'existe pas. S'Il existait, qu'y aurait-il encore à produire? et où resterait le "*Sollen*" de l'ordre moral?

C'est à ces erreurs qu'on aboutit lorsqu'on s'enferme dans une vue trop étroite, en séparant les Valeurs de l'ordre ontologique. Nous imaginons bien que les Valeurs ne sont pas le néant; sur tous les tons on proclame leur réalité. Comment dès lors seraient-elles étrangères à la plénitude du réel, à l'être réel sans restriction, sans détermination essentielle particulière, à l'être réel qui unifie dans sa simplicité toute réalité et toutes les actualités. Dieu prouvé comme Etre est par là même prouvé comme Bien, comme Valeur absolue et source de toute valeur. Et c'est précisément parce qu'Il est sur-actuel, qu'Il peut être la raison de l'effort moral, du "*Sollen*" qui se réalise dans l'ordre de l'actualité existentielle.

Même si l'on admet la définition assez arbitraire de la personnalité que nous imposent les théoriciens des Valeurs, le Dieu

ontologique, base de l'actualité existentielle, est un Dieu " personnel ".

Son être nous échappe: " *non scimus de Deo quid sit* "; nous ne pouvons en avoir qu'un soupçon par voie d'analogie. C'est pourquoi l'actualité idéale, que nous donnons à sa suractualité par notre pensée, n'entraîne pas son actualité en soi. Nous n'en trouvons la garantie que dans l'actualité des êtres finis, qui nous ouvre une perspective sur le divin ontologique.— Nous avons insisté sur la contingence de l'opération, qui dans l'ordre fini aboutit à l'effet. En Dieu cette contingence est absorbée dans une liberté souveraine, qui s'identifie avec la plénitude de l'être, où l'opposition entre le nécessaire et le contingent des êtres créés doit nécessairement s'évanouir. Mille réserves sont à faire chaque fois que nous parlons par analogie de l'Infini.—Mais il reste acquis que l'être fini existe; que l'existence est, par soi, d'ordre divin; et que le fini ne peut avoir l'existence qu'en raison de ce qui n'est pas lui, en dernière analyse de ce qui est Dieu. Tout fini qui existe ou devient a par là même, en raison de son existence ou de son devenir, un rapport à autre chose que lui-même. C'est le principe de causalité dans toute la nécessité, dans toute la " *Denknotwendigkeit* ", dans toute l'universalité désirables.

La causalité est foncièrement divine, parce que l'existence l'est. Il faut aboutir à cette conclusion lorsqu'on veut établir le caractère analytique du principe de causalité. Mais cela n'entraîne en rien le fameux occasionnalisme de Malebranche, où l'on peut voir une conclusion outrancière d'un point de départ parfaitement vrai. Bien plus, l'existence du fini reste inintelligible, si l'on n'attribue pas à tout existant une opération appropriée, une causalité proprement dite.

Les anciens semblent l'avoir soupçonné, bien qu'ils s'en tiennent, en général, à la simple expérience. Leur adage: " *Operari sequitur esse* " ne signifie pas seulement qu'ils répudient à la fois le dynamisme radical d'Héraclite et le statisme de

Parménide. Ils voulaient encore affirmer que toute existence entraîne une opération; et ils savaient que cette nécessité se découvre dans l'ordre de la finalité, car ils donnaient à leur adage la forme: *"Unumquodque est propter suam operationem."*

La causalité finale, métaphysiquement conçue, s'impose avec la même nécessité que la causalité efficiente. L'effet déterminé résulte de l'action déterminée. Celle-ci jaillit de la cause; et sans le moins du monde tomber dans l'anthropomorphisme, on peut dire que la cause *tend* à l'effet déterminé. Comme cette opération résulte, soit de l'être de la cause, soit de cet être surajouté qu'est la connaissance, nous sommes contraints de conclure que la cause tend à l'effet par son être, que l'effet est proportionné à son être, qu'il est la perfection postulée par son être.— C'est là la *causalité* finale; et l'on comprend sans peine que cette causalité est la raison profonde de l'effet, que la fin est la première cause. Il ne faut pas, comme Windelband, en appeler au mystère du temps, pour comprendre que la fin, postérieure à l'action, puisse la produire. La finalité est radicalement la détermination de la cause efficiente.

On comprend aussi, par cette courte analyse, que dans l'ordre de la Nature, toute cause opère par soi, dans l'opération qui lui est propre.[15] Elle agit en raison des tendances de son être vers un terme qui lui correspond. C'est dans ce terme que la cause trouvera sa "satisfaction", l'acte de sa puissance; et l'on saisit immédiatement pourquoi les anciens disaient que la perfection de chaque chose se réalise par son retour à son principe.

Il est évidemment délicat d'appliquer ces considérations à la cause infinie. Cependant, et à plus forte raison, nous pouvons dire que Dieu ne peut opérer que pour Lui-même. Si

[15] Nous écartons ici toute considération sur la cause instrumentale, qui complique un peu le problème, mais qui n'entame en rien cette constatation fondamentale: toute cause, dans son opération propre, agit pour soi-même.

la perfection de la cause dépend de son effet, une relativité se révèle dans son être et son opération. Or Dieu est absolu. Bien qu'il faille L'épurer de toute imperfection, la finalité ne peut pas être absente de l'opération divine; car on la priverait de tout effet déterminé. Mais il est par trop évident que Dieu ne peut pas dépendre d'une fin distincte de Lui-même. L'Infini ne peut donc avoir d'autre fin que Lui-même. Tout existant par Lui, tout existe donc pour Lui; et comme les intentions divines ne peuvent pas être vaines, tout doit retourner à Lui.

L'univers entier doit donc " retourner " à Dieu, suivant les intentions de Dieu. Certains néo-platoniciens ont abusé de cette formule et en ont conclu à une absorption complète du monde en Dieu—ce qui est contradictoire dans les termes. Cette erreur a reparu dans certains écarts des mystiques du quatorzième siècle, qui ont vraiment préludé à l'idéalisme du dix-neuvième. L'effet retourne à sa cause lorsqu'il réalise pleinement la finalité, les intentions de la cause. Certes, le monde entier n'apporte aucune perfection intrinsèque à la divinité; mais parce qu'il existe, parce qu'il arrivera à sa fin divine il y aura quelque chose dans le réel qui ne serait pas si Dieu seul existait: la gloire—*clara notitia cum laude*—de la réalité divine par les participations de son être. Là seul peut se trouver la finalité de l'opération créatrice de Dieu.

Evidemment l'Etre divin peut réaliser d'un coup l'état final de l'univers, correspondant au choix de sa liberté souveraine; mais cette opération serait singulièrement vaine, si le fini n'avait pas au moins cette activité qu'implique la " clara notitia cum laude ", la connaissance et l'amour. Et quelle est la finalité, la raison d'être, de l'évolution de l'univers à travers les siècles? C'est là un fait d'expérience, le premier et le plus grandiose qui nous soit donné. La finalité divine doit manifestement se réaliser à travers l'évolution de la terre et des cieux.

Imaginons que le fini n'opère pas, que sa marche à travers le temps soit uniquement le fait de l'action divine. Alors ce

serait Dieu qui se rendrait gloire par les créatures; et l'on ne voit plus ce que cela ajouterait à la gloire qu'Il se rend par son Etre infini. Bref la finalité de l'opération créatrice ne se conçoit pas sans une opération propre de tous les êtres finis. La causalité reste toujours divine; mais d'une manière subordonnée les créatures doivent opérer; et leur opération peut être rapprochée analogiquement—très analogiquement—de ce qu'on appele la causalité " instrumentale ".

Nous n'ignorons pas que l'homme balbutie lorsqu'il s'efforce de parler des rapports entre la causalité divine et celle de l'être fini. Nous employons fatalement des termes—retourner à Dieu, la gloire de Dieu, la subordination instrumentale de la créature sous Dieu—dont chacun soulève des problèmes. Mais nous savons au moins que l'actualité existentielle, reflet de l'existence de Dieu, entraîne une participation à la fécondité causale de l'Etre divin.

Le principe de causalité nous impose l'examen de la notion de " cause ". Celle du sens commun est alourdie par des images qui la défigurent. Il est faux qu'elle se réduise à une succession de deux phénomènes dans le temps, quelque constante qu'on la suppose.—La causalité " empirique " des sciences naturelles est insuffisante, et implique des postulats, méthodiquement très légitimes, mais qui ne se justifient pas devant la raison pure.—La causalité est métaphysique; elle pose un rapport entre l'existence de tout ce qui devient ou est devenu et un autre être existant, sans lequel il n'existerait pas; et qui à ce titre est sa " cause ".

Le principe de causalité affirme que ce rapport est universel. Il ne peut l'être que si le principe lui-même est analytique. Il l'est, dans toute la force du terme, parce que la pure analyse de l'existence du fini nous révèle que l'existence, comme telle, appartient à l'ordre divin. Le concept de l'existence limitée nous impose le concept de la sur-actualité de Dieu. L'existence actuelle du fini nous impose la sur-existence de l'Etre divin.

Rien ne peut opérer que par la vertu de l'Infini; et cette nécessité se révèle sous un aspect particulier dans l'action transitive. Mais d'une manière subordonnée tout opère, et tend vers la suprême Valeur de la réalité existentielle: la "gloire" du Créateur.

Nous croyons avoir obtenu ces conclusions par les analyses qui précèdent. La spéculation sur le principe de causalité est laborieuse; mais elle est passionnante. Elle nous apporte un résultat précieux: elle met à l'abri de tout ergotage un instrument indispensable de toute construction intellectuelle; et elle nous met en contact avec la divinité.

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BRITISH NEO-REALISTS

WE are all aware that the present-day philosophical atmosphere is charged with realism—American realism, critical realism, British realism. It is about the last named that we are here concerned. With the advent of the current century common sense in Great Britain stirred restively under the unnatural spell of idealism. Laurie, Hodgson and others struck telling blows for the rights of the extramental world. Independent voices were heard from other countries, as that of Husserl in Germany and that of James, with his frank pluralism, in America. But the truly opening gun in England was fired by G. E. Moore when in 1903 he published his *Refutation of Idealism*. Though that article is now considered by its author to contain some " downright mistakes ", its open assault on the fundamentals of idealism started a revolt which from that day to this has continued to spread. While the survey to be given here is guided principally by Kremer's work, still some reviews of that work, a little delving into Maréchal and considerable perusal of the original authors have all been used to bolster up the treatment.

Kremer in his *Néo-Réalistes Anglais*[1] (author likewise of *Le Néo-Réalisme Américain*) has given us an able analysis of an important trend in British philosophy. I shall not delay to commend his labors, which were assuredly very great and accomplished with rare acumen; it shall chiefly be my endeavor to audit for the busy reader the principal results of this searching study. The survey is limited mainly to the work of four men: G. E. Moore, Bertrand Russell, S. Alexander, and John Laird. Nor is any direct cognizance taken of their opinions

[1] René Kremer, *La Théorie de la Connaissance chez les Néo-Réalistes Anglais* (Mémoire Couronné par L'Académie Royale de Belgique). Louvain: Institut Supérieur de Philosophie, 1928.

on such topics as values, freedom, God, morality; attention is focused on their theories of knowledge, detaching these as much as may be from other tenets of the writers named. And since this is an attempt to summarize many books and articles, I shall not burden the text with numerous references. These, if desired, can usually be found in Kremer's work. While the British neo-realists are at one in their opposition to idealism, they differ so widely in their own interpretation of reality, it will be best to take them up separately.

Moore directed his first attack against Berkeley's *esse est percipi,* showing that the principle is not analytic, and that to claim it synthetic is sophistry. Nor was it difficult for Moore to demonstrate that idealism is reducible to solipsism—a name at which idealists (with some justification) are terrified. Berkeley left us only naked spirits; Hume only empty raiment; Kant tried to clothe the one with the other, but in this attempt failed to answer the real question Hume had raised, which was not "What forms do our beliefs take?" but "Why?" Moore points out that while Hume was a trenchant critic of knowledge he was incapable of self-criticism, and so bequeathed us a critique full of glaring inconsistencies. In building up his own system Moore gets at the fundamental fact that we all distinguish between the existence and non-existence of objects, as when we say that Sinbad's Roc did not exist; and at that other fundamental truth that we cannot speak of change of conscious experience unless on the one hand there be a subject that persists through the change, and on the other non-mental plural objects. Unfortunately, Moore describes consciousness as a transparent or diaphanous medium through which objects are viewed. Kremer rightly considers this an incorrect description of how consciousness appears in knowledge.

Russell, it must be remembered, has within the last decade or so changed front, involving himself in relativity and beha-

viorism. In general he manifests a relish for the new, is cautious of adopting outright the views of others, paradoxical, enigmatic. His earlier works are almost common sense philosophy. But his mathematics has occasioned in him a kind of Platonic realism and an exaggerated esteem for formal logic, so that he is not so much bent on a critical examination of the mind's stock-in-trade as on the way of handling it. He is more for method than for metaphysics. Though his logic is of the mathematical kind, starting with a few self-evident propositions and deducing the rest, he nevertheless claims for it a more supple quality than that possessed by the commoner, rigid sort taught to undergraduates; it can tolerate approximations and suffer adjustments without collapsing. For him reality is not the existing world but all possible worlds; he generalizes his statements under algebraic symbols, makes his deductions therefrom and regards the result as an inventory for all conceivable cases. Trained to think in numbers he takes things distributively, accepts the utmost pluralism, atomizes everything, even perception, and, with it, mind. He then seeks to reunite the atoms by blending them together in a continuous function. The common bond is the principle or law, which he also calls "causality". To him transcendental monism is a sterile synthesis, and stuffy. He wishes philosophy to be lively, a quest of the new, a making of arbitrary suppositions by a logic uncontaminated by the concrete world. With Moore, though somewhat differently, he assails "internal relations" (so dear to English idealists, especially Bradley), and demonstrates the inconsistencies of the idealistic tenet that truth is an organic unity, a significant whole. Bergson and James fare no better at his hands; the former's intuitions are innocent of proof, and the latter's truth is not truth at all but only a plausible criterion thereof. It will be seen that on some of these points Russell parts company with his "friend and collaborator", Professor Whitehead. Not to lose the ground gained by his

repulse of idealism, Russell is wary in his own definition of truth. The truth of a judgment, he says, is a "multiple relation". This, as clearly as can be made out, seems to amount to the following: the mind groups certain factors, the members of this group having relations to one another; extrinsic to the mind is another group, these are "object terms" with "object relations"; if the mind group corresponds with the object group to which it is referred (related), there is truth, otherwise error.[2] Taking this at its best, and granting that the mental terms are of a different order from the ontological, one may, I think, be fairly satisfied with Russell's description of a true judgment. But when you remember that he holds every object to be equally real (even hallucinations), and the mind to be a mathematical function, you wonder how his description of truth can fit into his own philosophy.

To illustrate this last point about the nature of the mind we have only to consider Russell's solution of a problem which seems to puzzle all the members of the school. This problem is suggested by the elliptical appearance of a coin seen at an angle, or better still by Russell's own example of a table set for a dinner party. To the eye the table is an ensemble of mosaics, yet a different ensemble for each observer according to his point of view. Russell will have it that the mind, i. e. our consciousness of the various aspects, following as it does a certain law of change while we move around the table, is nothing more than a group or class of aspects. Herein we see the reason why he prefers algebraic symbols to arithmetic numbers, because the former stand for a class or group. Thus the multitudinous aspects of the table are grouped into one as by a curve or graph; and that sort of unity is the only kind he feels justified in ascribing to consciousness. But consciousness, you object, has at least a memory. To account for its memory of self Russell

[2] Cf. Kremer, p. 59.

explains that the function consciousness is a temporal series as well as a spatial one. He even says:[3] "It is only an accident that we cannot remember the future." Furthermore, being a realist, he has to hold that all the particular aspects are objective, and are all of them heaped up in the one place where the physical object known as the table is. Thus the table itself is no less a multitudinous group of entities than are the experiences at the mind end of the relation. It is no wonder that Kremer in summing up declares that Russell has become, if not a nominalist, at least a near neighbor of the American neo-realists, who practically identify mind with a phase of the object.

Of all the British neo-realists Alexander has the most complete system. His maneuver against the idealists is to put the mind and its objects on the same level. He is for dethroning mind, for the democratization of reality. The mind may indeed prove to be the most endowed of democracy's citizens; even then it is not an absolute monarch but a *primus inter pares*. Again he argues, if the thing is nothing but the idea, then the idea is nothing but the thing; and so the idealists and American neo-realists are in the same boat. Opposing "internal relations" Alexander maintains that the object owes nothing to the mind except the fact of being known. Knowing, assuredly, is a relation, but that need not mystify us. Relations are easily understood in the visible world about us; one body is next to another, follows after another, acts on another. Knowledge is simply "compresence", it is contact of a kind in which one of the terms is conscious. Alexander also recognizes that cognition starts with sensation, in which we experience sense objects imposing themselves on us; and he will not concede that consciousness is simply nerve activity, although inseparable from it. His effort to dispel the mystery of knowledge is commendable, as is also his distinction between neces-

[3] *Knowledge of the External World*, Lect. 8.

sary and contingent relations on the basis of their connection with the nature or essence, still when he admits only the necessary as "categorical" he appears to confound the categories with the predicables.

One can scarcely quarrel with Alexander's general description of the external world, as extended in space, clad in sensible qualities, animated with motion and enduring in time. It is when he launches on metaphysics that he begins to be disappointing. Tridimensional space is for him, if not an *ens ut sic,* at least a sort of prime matter, with time as its elemental form. Time is a motion which consists in the successive occupation by something or other of the points of space. This restless expanse is space-time, the fundamental stuff or unique element, out of which all reality is made. Redistribution of the points of space gives rise to the categories. Thus from space-time issue first the primary qualities, and they constitute matter. Secondary qualities are a special condition of the primary and, like matter, represent an emergent. We are now in a position to classify mind. As time and qualities emerged from their antecedents so mind, or consciousness, emerges from the nervous system in the region of the brain. A concrete substance is a group of points enjoying a certain unity, or in other words a synthesis of qualities. As for knowledge, the nerves or sense organs do not manufacture data for the mind, they merely transmit them from without. Truth adds a "tertiary quality", *viz.* the mind's assent, the fiat of the speculative will. Truth with Alexander seems to consist merely in our referring phenomena to their proper date and location in space-time. An error is therefore a kind of historical and geographical misplacement of an event. It disagrees with the structure of reality. Errors are to be corrected by contact with other minds; in this sense truth is social. All this Alexander maintains as consistent with his realistic platform of submission to the demands of the object. One wonders how much social truth he can find for his theories.

John Laird, the fourth principal British neo-realist, is characterized by Kremer as Scotch, young, airy and independent. His writings, especially *A Study in Realism,* are pleasant reading. His style is piquant, and his frequent citations and literary allusions have the unusual quality of concentrating rather than distracting the attention. Scholastic philosophers will find themselves at home in much of his reasoning. To take but a few examples of common ground: Laird does not identify realism with the whole of philosophy, nor even with the whole of epistemology; cognition involves a distinct object, "We do not become the Niagara by seeing it"; real relations are of two kinds, contingent and necessary; sensations are only the beginnings of knowledge, and can be verified without a vicious circle; the fact that perception does not take in all the properties of an object is no reason for rejecting those it does take in; we perceive objects not nerve activities, which latter are in turn not known except as objects; we know universals and abstract principles as distinct from percepts, and what we predicate of a subject is not simply a part of it but a general characteristic which it has in common with others. Laird's personal contribution to the subject of perception is his "sign-facts", by which he means that percepts signify more than their bare content; as, for example, "snow looks cold". His description of the differences between images, memory and perception tally admirably with everybody's experience, but he leaves the reader a little unsatisfied about the philosophical basis for the certainty of memory. In a general way Laird's noetics are sublimated common sense and provide a wholesome antidote to the vagaries of others of his school. The final chapter of *A Study in Realism* is bitingly ironical about modern philosophy, and unfortunately is apt to leave the impression that Laird's attitude toward his subject is dilettante if not sardonic. It seems to me that Kremer, influenced by this chapter, as possibly also by what he calls Laird's *coquetterie* and occa-

sional drollery, does not give him an appreciation proportionate to his importance in the neo-realist group.

Before we attempt a general estimate of the school, several men less widely considered as belonging to it deserve at least a brief mention. Of these Wolf admits Buehler's proof for imageless thought, and recognizes in the twofold nature of man the source of most of our problems of knowledge. T. Percy Nunn wisely distinguishes between perception (or apperception) and rational inference, and furthermore shows that the physicists' monopoly of the primary qualities (measurable quantities) does not lessen the objectivity of the secondary. He has the usual trouble with the stick apparently broken at the surface of the water, with the changing hues of the ranunculus and the drop in the pitch of the locomotive's whistle as it rapidly passes the observer, but comes off rather well in providing the correctives. Whitehead, who has called himself a "provisional realist", likewise belongs to this school, but has so many peculiarities of his own that we must be satisfied here with the mere mention of him. At this point, too, it may be well to note that, since the time of Locke, the science of physics has, for many British philosophers, seemed to separate the sensible object from the "physical object"—that is to say, from the object as it exists when unperceived—as also from the "scientific object", namely, the object as it is in itself even when perceived. To illustrate this last point: by applying our senses we say an object is continuous, solid and colored; nevertheless by the use of the same senses in laboratory experiments we discover that the apparently continuous body is made up of infra-microscopic "physical events and objects",[4] at relatively great distances from one another and without anything that might be called color. Thus is born the "scientific object", which, child though it be of observation, insolently rises up and contradicts its parent. This to some may seem a specious diffi-

[4] C. D. Broad, *Mind and Its Place in Nature*, p. 176.

culty, but it is very real to the realists, particularly so to the next and last man on our roster. Broad is essentially a critic of fundmentals, and as such rather raises difficulties than settles them. With all his elaborate discussion, his theory of knowledge amounts principally to his acceptance of the appearances as intermediary between the senses and the physical object. (With good reason, he does not regard the "physical" as distinct from the "scientific".) His realism consists mainly in the fact that, like others of this group, he considers the existence of the physical object the simplest explanation of the sensa.

As for Kremer's work, it is only fair that it be read with something of the same broadmindedness with which he approaches the neo-realists. His appraisal is given in a commendable spirit of friendly criticism; he is averse to censuring what they have achieved, and, foregoing such withering criticism as is found in *Time and Western Man,* he thinks their realism can be saved by frankly admitting additional elements in the facts of knowledge. He gives them credit for wishing to keep in touch with minds unspoiled by philosophical subtleties, for industriously probing into the nature of perception, and for not allowing their kinship with Reid and the Scottish school to lure them into accepting the blanket explanation of "blind instinct". For all that his criticisms are to the point and go very deep. The general shortcoming of the British neo-realists is that their system is too anti-idealistic and has too little positive metaphysics of its own. The question of relations looms large in this realist reaction. Idealism took all relations to be internal and of such sort that they transformed the nature of the terms, more so even, to use a phrase of Moore's, than fire transforms sealing wax. To consider a term apart from its relation was to misconceive it. Anything isolated was by that very fact misrepresented and misunderstood; you could not correctly know a part without knowing the totality. Such is the doctrine of "internal relations". Against

this the neo-realists rightly vindicate "external", or as we might say, predicamental relations; and while they admit that transcendental relations must be included in a comprehensive knowledge of an object, the omission of such relations does not render the remainder of our knowledge false. So far so good. But the neo-realists' suspicion of anything that smacks of current idealism keeps them from openly avowing logical relations as a class apart from the real. Rightly maintaining that real relations are discovered, not made, they fear to admit that even logical relations are made, and are prone to predicate the latter of the extramental world in the same sense as the real. Their policy of "no quarter" for products of the mind has been carried too far. Russell's infinitely multitudinous existing entities thrown together in one spot to make up a simple table are a result of this ultra-realistic dread of idealistic taint. Realists should note, too, that when the mind distinguishes it does not utterly isolate the members of the distinction, but retains a bond of union between them. The bond is at least being, and thus being is an absolute for knowledge.

The great need of neo-realism is sound and consistent metaphysics. The core of Alexander's metaphysics is space-time, an entity extended in three dimensions and, so to speak, ticking off a durational fourth. It is easy to see that this is not convertible with being, and at best confuses the abstract with the concrete. A still greater crudity is his making "mind" a concretization of space-time, and "God" the soul of the future. One smiles at Kremer's mildness in censuring these doctrines as "an abuse of words". Again, the Lockeian makeshift for substance—a group of qualities—is swallowed whole by most neo-realists. With all their zeal for facts they fail clearly to acknowledge that sense gives only uninterpreted impressions, and that it is the intelligence that cognizes "one", and being and relation, and sets accident over against substance. Through fear of idealism they (except Laird) hesitate to make the con-

scious subject itself an object of knowledge. Nor is the mind's relation to an object at all adequately explained by saying that it is a relation in which the mind term is conscious. Consciousness granted, it still remains that, for man at least (whatever may be true of brutes) the knowledge relation is of altogether another sort than the mere spatial relations of bodies to one another.

But, relations apart, a challenging gauntlet thrown down by the idealists is: If the material world be objectively real, then so are dreams, images, hallucinations real! The neo-realist takes up the gauntlet and answers: So they are. But to defend the objective reality of dreams and hallucinations on the same plane as direct perceptions is a task for Titans. Idealists can easily poke fun at such objectivity. Our neo-realists greatly weaken their case by this indiscriminate championship of the object. They have the solution in their own manual of arms if they but look for it. They are strong for facts. Now it is a plain fact that we do distinguish percepts from images, memories, hallucinations and dreams—else how could we classify them as we do? Images can even co-exist with perceptions without confusion, and so can memories. Hence actual perceptions cannot have the same objective status as the others. Sense data should be accepted for what they are, and not ruined by intransigent theories. But because the neo-realists are still amenable to the old suggestion that substance, if not logically identical with appearances, must then be something necessarily hidden and cloaked in impenetrable phenomena, it follows that sense data (for them) become detached from body; images, memories, dreams, hallucinations in their turn all join the train, and, claiming the same rights as actual sensations, rise up like ghosts to haunt and harry the poor philosophers. Every object of knowledge is for them an aspect, but of what it is an aspect there is no telling. Noel is a much better realist when he says simply that the phenomenon is "*l'aspect que la chose prend pour nous*".

Last of all the great scandal for idealist and realist alike is the fact of error. By all the canons of both schools error simply should not be. If you are an idealist whatever you think is so, if a realist whatever you think is real and therefore must be so, too. Error, however, is a sad fact admitted on all hands, and challenges the philosophers to define it. Russell, Nunn and Alexander make error consist in a bad choice; but how can a choice be bad where all the objects are equally real? In addition to this Alexander's appeal to the collective mind is but a relic of absolutism. Were it not better frankly to admit that the mind prescinds notes, characteristics, from the particular objects and gives them an existence which though founded on extramental reality is of an order entirely different from their existence in the particulars? This admitted, it can easily be seen how the mind may be led to attribute these characters to extramental subjects where they do not in reality belong; and that is error. On the other hand, while it is correct, it is not enlightening to call truth a value. Value is the objective of a tendency, and the mind's tendency is undoubtedly toward truth.[5] What we want to know is what kind of conformity with its object the mind is striving for. At this point it is well to remember that the human mind is not, as the neo-realists are too prone to suppose, a lifeless mirror which merely duplicates what is in front of it. The mind of man is active. Without creating its data, it finds in them something more than a meaningless jumble. It has a zest for abstraction and comparison, and through the instrumentality of these it discovers an accord, which, though not the simple twin of the extramental fact, is an analogous case of the same synthesis.

The objectivism of the British neo-realists is too simple. In its less acceptable form, as with Russell, it is too restricted to the sensible and little more than a refined materialism wherein logic is employed to reduce reality to a powder of events. At

[5] Cf. Maréchal, *Le Point de Départ de la Métaphysique*, V, iii.

its best it suffers from a shallow and inadequate metaphysic, and leaves the way open for an idealistic reaction. In the noetics of Kremer and Maréchal the mind has a teleology that is optimistic. It may have its setbacks, but it has the remedy for them; its quest is a conquest, and the outlook is bright.

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THE GOD OF SPINOZA

THE vague mysticism of the early twentieth century which reacted against the pure materialistic evolution of the preceding period brought with it a revival of interest in Spinoza. The attempt to construct a religious metaphysics on the basis of emergent evolution as fostered by Whitehead, and the invasion of the camp of philosophy by excursionists from the physics of relativity, have converged in a similar new attachment to the divinity in nature as set forth by the one-time excommunicated Jew of Amsterdam. Seventeen pages of Spinozistic bibliography, much of it of later date than nineteen hundred, and the greater part since eighteen-ninety, are found in Richard McKeon's recent work, *The Philosophy of Spinoza.*[1] An analysis of the mysticism into which modern science is so prone to fall (witness the popular appeal of Christian Science) reveals that, under one guise or another, it contains the attitude of the *Ethics* of Spinoza. Recently,[2] the news despatches carried the report of the adhesion of Einstein to the God of Spinoza; and it is difficult to see any distinction between the substance and modes of Spinoza and the organism with its patterns as described by Alfred North Whitehead.[3] McKeon's is the most noteworthy contribution to the study of Spinoza for a long time. The author prepared himself by a careful and exhaustive examination of the backgrounds of Spinoza, and has made an earnest effort to present as clearly as could be, and in a sympathetic manner, the thought of Spinoza. We shall have occasion frequently to refer to this work in the course of the present article. There is no doubt but that the crux of Spinoza's philosophy is his idea of God; and strange to say, although he

[1] New York: Longmans, Green Co., 1928.
[2] *The New York Times*, April 25, 1929.
[3] *Science and the Modern World* (New York: Macmillan, 1925), passim.

sought to establish it with the clarity of mathematics, it has remained obscure. McKeon [4] devotes many pages to it, but does not come to any sharply defined view; in fact, his chapter on " God and the Universe ", especially in the earlier sentences, is itself an obscure piece of writing. To be mystic and use ordinary language at the same time is impossible; to be rigoristically mathematical in demonstration, mechanistic in scientific investigation and monistic in one's view of reality requires a language beyond the ordinary means of expression found in daily life. In just what relation to the world did Spinoza place his God? What kind of construct does he set up as God? Does this construct hold anything for the religion and science of the present? In the light of the attention which the subject is claiming, an exposition of certain elements bound up in these questions will no doubt be welcome.

Spinoza makes his own terminology. He undertakes to give definitions and axioms, and uses these in his argumentation. To avoid confusion it is necessary to mark off carefully the variation between his understanding of a term and the meaning given that term in other writers or in traditional usage. The first of these terms which we shall investigate is *natura naturans* and its complement, *natura naturata*. McKeon (p. 69) says " in this doctrine, Spinoza took over a distinction that had wide currency in the middle ages ". But Spinoza did more than take it over; he made it over and gave it a meaning quite different from what it had among the Scholastic masters. Why should *natura naturans* mean a being we conceive clearly through itself without invoking anything beside itself? *Natura naturans* was applied by mediaevals to God; Spinoza applies it also to God; but the meaning of God to the Scholastic compared with what God means in Spinoza is in no way an equation. Why should *natura naturata* imply modes or creations which depend on God immediately: are *modes* the same as creations?

[4] *Op cit.*, p. 161.

Can you make equivalents of mode and creature? Certainly this is not a bit of customary mediaeval philosophy. If we trace this distinction among the mediaevals, we find two meanings attached to it. By *natura naturans* the earlier writers meant created nature, but understood in the universal; it was the general nature by which particular natures were defined. This idea had to be clarified, as it was, by the contest over universals. St. Thomas points out (Ia-IIae, q. 83, art 6) that by some, God was said to be *natura naturans;* but this is in a special sense, and has therefore rightly to be understood. God is *naturans* in so far as He is the author of nature, and governs and conserves it. It is easily seen how, as McKeon remarks, the term as used by Spinoza has met with different interpretations, some tracing it to the *natura creans et creata* of Scotus Eriugena, which is wholly pantheistic. In the etymology of Isidore of Seville (Bk. XI, c. 1) the word *natura* is derived from *nasci,* to be born or produced, and it is added that God, by whom all things were created and exist, was given this name. It is improbable that Spinoza was acquainted with the vicissitudes through which history had carried his chosen phrase; he found it adapted to his needs and giving it a meaning in the light of his philosophy, used it. Whitehead and Lloyd Morgan understand by *natura naturans* the "creative advance of nature", a sort of divine self-development. If this advance is merely by 'modes', it is Spinozistic; if it is a creative advance, leading to the production of additions to the first Principle, it is hardly compatible with Spinoza's definition of the infinite. In neither case is it a Scholastic usage. Similarly, the Schoolmen applied *natura naturata* to the created universe, reduced to particular entities. It is the work of God's creation, distinct from Him by the possession of its own proper being and existence which it has received from Him in the creative act. Scholastic philosophy maintains that it has its own proper operation as well as existence; in this Malebranche and the

occasionalists diverge from the Scholastic teaching, holding that while created entities have being of their own, they cannot have any proper operation. According to Malebranche, all operation is directly and immediately divine. Malebranche sets himself in positive opposition to Spinoza; he calls him the "wretched" (*le misérable*), and Spinoza is the author referred to in the ninth dialogue as "the author who has renewed this impiety" (of emanationism). There can be little doubt that Malebranche understood both Descartes and Spinoza. With Spinoza, *natura naturata* is but a mode or collection of modes of *natura naturans*, and is, if we grasp what is meant by 'mode', just such an alteration of it as his running is of Socrates.

The God of Spinoza is constructed around the definition of substance. Descartes had defined substance as that which so exists that it has no need of any other thing for its existence. But Descartes allowed a plurality of created substances, which were called substances, although they could not exist without God. That a thing be a substance it suffices (as Malebranche explains [5]) that we can think of it without having to think of anything else. Extension is thus argued to be a substance, and identified with matter. Thought also is a substance, but it is distinct from the substance which is extension because I can think of thought, desires and pleasures without thinking of extension. With this elaboration Spinoza does not agree. He is sometimes classed as a 'follower' of Descartes; but this is only in a psychological way, in so far that it may be said that if the Cartesian definition of substance had not preceded, the Spinozistic would not have followed. While Spinoza does not belong to Christian Cartesianism, it can hardly be denied that his definition of substance takes its departure not from any ancient or mediaeval speculation but immediately from Descartes. Spinoza has simply given an idealistic tinge to the realism of Descartes. But this makes a total change; the

[5] *First Dialogue*, II.

metaphysics which follow upon the one and the other diverge as do idealism and realism. Descartes defined substance: "A thing which so exists that it needs no other thing for its existence"; Spinoza altered this to "that of which a conception can be formed without the help of any other concept". It is "that which is in itself and is conceived through itself". Descartes may have been illogical in his pluralism; at least he tried to build upon a world within which he was contained. But Spinoza assumes the position of a superior observer, and sees substance according to the manner of the formation of the concept "through itself". Other things have to be conceived through it. This makes, of course, all knowledge to consist in the perception of all reality through some one reality and, like all idealism, makes cosmology a theory of knowledge. Descartes acknowledged the reality of extension; Spinoza left nothing of it but something which is seen through God. The world must be looked at *sub specie aeternitatis;* or, as Boodin [6] puts it: "We lay hold on reality as we reduce these (confused states of mind) to system and in the last analysis as we know them in the intellectual love of the whole, which for Spinoza is God." Every such philosophy, and there are many, involves the assumption that man can erect a system of reality on the basis different from any of which he finds himself in possession.

McKeon begins his exposition of Spinoza's thought (Part Two of the work cited above) with a chapter on God and the Universe. The subject is abstruse, and the exposition given is not easy to grasp. To clear up the difficulties arising from the initial definitions which Spinoza places at the beginning of the *Ethics,* and replying to the critics who "insist that the existence of God is proved inadequately and that things are explained without cogency by God alone" (p. 161), we read: "Ultimately these two difficulties are only one. They are reduced readily to the peculiar transvaluation that a rational-

[6] John Elof Boodin, *Cosmic Evolution* (New York, 1925), p. 181.

ism undergoes when it is submitted to only empirical requirements; in view of it the circumstances of the mathematical demonstrations are sufficient to give rise, not only to the suspicions advertised by the godly and ungodly in the alternating names of atheist and pantheist, but also to the accusation that the carefully grounded theorems of the *Ethics* are not proved!" And (page 163) "Spinoza adopted this order of philosophizing and this mathematical method to avoid what would be called atheism and pantheism; the irony is that his precautions have earned him both titles and the suspicion besides of loose thinking". It must be obvious to anyone who thinks in terms of metaphysics, from the standpoint of ethics as regulatory in any degree of human conduct, that atheism and pantheism are one in so far as both present no grounds of responsibility to the individual for his conduct. Whether you call Spinoza an atheist or a pantheist is simply a question of whether or not you admit that his "god" is a god at all, or whether you accept his term "God" and see in it an All–God or pantheistic divinity. Spinoza's caution, as McKeon shows (Part One, c. III) seems to have been largely directed to concealing his philosophy lest his true belief be discovered. Spinoza's letters to Schaller[7] show the same kind of caution. Speaking of Leibniz, he says: "I think it imprudent so soon to entrust my writings to him. I should like first to know what is his business in France, and the judgment of our friend von Tschirnhausen, when he has been longer in his company, and knows his character more intimately."

Spinoza placed the divine nature first both in the order of knowledge and in the order of nature. Therefore he held that all philosophy should begin with the nature of God. The reversal of this order was the source of all confusion in philosophy. But he is faced with the problem of how to arrive at the

[7] See especially Letter LXVIII, b, in Elwes translation of the works of Spinoza.

divine nature as the first certainty. This position is evidently a result of the influence of Descartes, who made an immediate ascent from his *cogito ergo sum* to the existence of God. Spinoza wished to place the existence of God in the first place. Among the Scholastics, the issue had been well considered and solved. St. Thomas deals with it at the very beginning of the *Summa Theologica.*[8] The existence of God is the first truth in the order of nature; God is first known to Himself; but *quoad nos,* the nature of God is not known, nor is His existence evident without demonstration. This demonstration must proceed by principles which, while not more sound in themselves, are prior in human knowledge. But Spinoza (as McKeon notes, p. 41) was not acquainted with the *Summa.* He felt the necessity of putting a mathematical framework into philosophy and following the method of axioms and definitions. He failed because it is impossible to posit a logical necessity in the ontological order without an existent from which to begin. He wished to arrive at the existence of God from postulates without placing any a posteriori element in his argument; if this could be done, experience, even that which declares to the individual his own separation from every other factor in nature, could be neglected as worthless in metaphysics. Spinoza decried experience; he sought to give a certificate of reality to realms of speculation which the mind could enter only by leaving at the gates the utterances of consciousness bearing witness that the *ego* is a fact. He arrives at his God by an invalid method; the result is merely a construct which will serve the purposes of hypothesis without contact or tangency to reality, and even as such is an entirely useless mental excursion void of anything helpful either to scientific interpretation of nature or penetration of the everyday experiences of the plain man.

Spinoza summed up method as "nothing else than reflective knowledge, or the idea of an idea" (*De Intellectus Emenda-*

[8] I, q. 2, art. 1.

tione, c. 7). Pollock[9] proceeds to give the outcome of this dictum as follows: "Now the reflective knowledge which has for its object the idea of the most perfect being is more excellent than any other. This idea, then, is the ultimate object of the mind's pursuit. . . . Thus the 'idea of the most perfect being' includes, if it is not equivalent to, the belief that the whole nature of things is one and uniform. Now this is the very first principle of all science. . . . In knowing the 'most perfect being' the mind knows itself as part of the universal order and at one with it: therein finding, as we have to learn elsewhere, the secret of man's happiness and true freedom." Spinoza understands by idea first of all a conscious state of the knowing mind, in which the object is represented; without explicitly knowing this idea, the mind may know the object. But idea also has another meaning: the disposition of the organism by which consciousness is possible; in this manner, the human mind is the idea of the body. Hence, an idea of an idea may have either of two things for its object: an idea with its content, or the disposition of the organism. That is, I can think of an idea of an object, e. g. Peter, and my second idea will be an idea of my first and have my first for its object. This process can be repeated indefinitely. But an idea of an idea is the mind's taking cognizance of itself; the mind is the idea of the body, and therefore an idea of an idea in this second sense is the linking of an abstraction to the bodily organism and at the same time an identification of the idea of the mind with the mind. Spinoza proves none of this; as Pollock remarks, it is a blending of two meanings (one of them wholly arbitrary) "logically not to be justified". But we can see that by this blending, Spinoza has in view the identification of the human mind and its object, the universe, with the most perfect being, when the idea of the most perfect being is the object

[9] Sir Frederick Pollock, *Spinoza: His Life and Philosophy* (London 1899), p. 126.

of a reflective act, i. e. the idea of an idea. Plainly, this means that when we reflect on the idea of God, we recognize that the most perfect being includes both the mind and the extended universe. That this is an unjustifiable "method" is evident from two points, first, that a wholly new signification is attached to the word "idea" in the statement that the mind *is* the idea of the body; and second, that the term "idea", in its older sense as having a representative character, is replaced in the argument by the newer and Spinozistic meaning without any evidence whatsoever in its support. It is a simple example of the fallacy of equivocation, the precise thing which Spinoza warns against in the *Ethics* (Proposition XVII, Sch. 2). Spinoza, we may note, points out the danger of this fallacy by the ancient instance of the dog and the dog-star.

McKeon, in his attempt to give logical value to Spinoza's transit from the ideal to the real order, follows a somewhat different line. He deals with this difficult issue skilfully and profoundly, but there is a weakness inherent in the method itself which cannot be overcome. His words are[10]: "Logically it can be stated in a variety of ways: any discourse marks off a realm of discourse in such wise that any consistent statement indicates a real and intelligible nature. Or stated more rigorously: a postulate may be formulated such that from it and from the definitions involved in its statement a proposition may be deduced concerning the nature of the reality in which such a postulate is possible; the truth of that proposition would follow not from assent to the postulate but from the very existence of the postulate. For thinking to be possible, it is said in effect, there must be an infinite perfect being. But to formulate such a postulate is an act of thought; it must, according to its own statement, be referred to a perfect intelligible being who is implicated in any statement. Yet knowledge of his nature will be independent of the truth or falsity of other

[10] McKeon, *op. cit.*, pp. 165-166.

statements; in fact, although the being of God is first indicated in these statements, once it is known such knowledge will not depend on the truth or falsity of the statements, but on the contrary their truth or falsity will depend on the nature of God. Even the primitive postulate is no longer postulated but is made apodictic by the better attested truth of God's existence." Now the question of the existential import of terms in any universe or realm of discourse has received no small amount of attention among modern logicians; Bradley, Bosanquet, Joseph, Keynes and Coffey have treated it at some length. None of these attempts to argue from consistency in a realm of discourse to the objective reality of the subject of the discourse. And, as Coffey [11] says: "It must be a realm which is not only present to, but also independent of, the individual thinker's actual thought, and to which an appeal can be made to verify his judgments about things therein." Hence the first requisite of a reality in which any postulate is possible is that it be independent of the thinker's actual thought; even the "idea of an idea" must be checked by an a posteriori relation. In the statement that discourse marks off a realm in such wise that any consistent statement indicates a real and intelligible nature there is some confusion. Coffey explains this phase of the 'universe of discourse' in chapter seven of the work cited above. "Every judgment makes a predication *which refers us to some objective sphere or other which is a portion, at least, of all conceivable reality.* In this sense every judgment implies the existence or reality of its *ultimate subject.*" The reason of this is simply because every judgment affirms itself to be true, i. e. to belong to the reality of the universe; by no means does it signify that the subject or predicate has existence beyond its possibility or conceivability. Hence a postulate indicates "a real and intelligible nature" only in so far as it *refers* to some sphere of reality; it may be imaginary through and through if

[11] P. Coffey, *The Science of Logic* (New York, 1912), I, 53.

it belongs to the realm of the imaginative or merely possible. Any effort to give this " real and intelligible nature " a concrete existence demands an appeal to some known existent and is therefore afflicted with what McKeon styles " the fault of being a posteriori ". To proceed from a postulate which indicates the nature of the reality in which such a postulate is possible is merely to ask the mind to make a construct which will fit the requisites of a preconceived definition; the existence of the postulate will then remain purely mental or ideal and so would the realm of discourse which made possible the existence of the postulate. Hence the truth of the deduced proposition concerning the nature of the reality in which the postulate is possible is subject to the same limitation. But if you mean by the existence of the postulate its existence not as a postulate but solely as a thought and conclude from the fact of thinking (whether or not you assent to what you are thinking about) that thinking is possible you have certainly attained the goal admired by Alfred North Whitehead when he says:[12] " It requires a very unusual mind to undertake the analysis of the obvious." To reason from the fact of thinking to the existence of an infinitely perfect being is possible but hardly Spinozistic. To construct a postulate which requires for its truth the existence of God is Spinozistic; to conclude that because that postulate has been formulated, whether true or verifiable and independent of its verification, God exists, and since He does exist the postulate is true, is equally Spinozistic and an illogical transitus. The conclusion should be, not that the definition formulated is a postulate is correct or true, but solely that it exists where it had its existence in the beginning, namely, in the mind of the formulator. The primitive postulate is not made apodictic at all " by the better attested truth of God's existence ". Suppose I take as my postulate, " All satellites are made of *fromage*

[12] *Science and the Modern World* (New York, 1925), p. 6.

vert", I can reason that in order to think this, thought must be possible, and therefore there must be an infinitely perfect being. But since this follows from my postulate and is indicated by it, its truth or falsity no longer depends on itself, but on the nature of what it indicates, *viz.* God. Must I then say that my postulate is made apodictic by the better attested truth of God's existence? McKeon claims St. Augustine, Alexander of Hales and St. Bonaventura as well as Matthew of Aquasparta and Anselm for the a priori argument (p. 175, *op. cit.*), and finds St. Thomas admitting that all that can be deduced from the fact of thinking is that man is possessed of an intellect and exists in a world that is intelligible. But what Thomas will not concede is that from a definition formed by the mind a priori you can deduce the objective existence and attributes of the thing thus defined.

That the hazy speculations of Spinoza have an attraction for minds unskilled in the clear-cut methods of sound metaphysics is not to be denied; this may in part account for the leaning toward Spinozism found among those moderns who struggle in the effort to raise scientific hypotheses to the dignity of philosophical certainties. But what satisfaction a universe of the type proposed by Spinoza holds for the physical scientist is not easy to conceive. If there is nothing but God, attributes and modes, with what is science engaged? Does the scientist lay the flattering unction to his soul that as a result of his experiments God is advancing? How can an adherent of relativity, for instance, whose mathematics and physics lead him to conclude to the finite character of the universe find in the extension with which he is acquainted an infinite attribute? How can the empiricist agree that experience is irrelevant to truth? If attribute is substantial reality (McKeon, p. 187) then mode is a modification of substantial reality. If so, God is changed with his world and in his world. If individual things (*Ethics*, I, 25) are nothing but the modifications of God's attributes,

then existence does not properly belong to them, for their existence is not their own, but another's. The plain truth is that if man does not begin the structure of his knowledge on the existing universe as it manifests itself to him through his senses, there is no limit to the dreams which he may dream and the visions which he may see.

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BOOK REVIEWS

Leibniz. By HERBERT WILDON CARR. Boston: Little, Brown and Co., 1929. Pp. 222.

This is the first volume of a new series entitled *Leaders of Philosophy.* The general editor, Professor J. L. Stocks, of the Victoria University of Manchester, has arranged for the publication of a certain number of monographs on the philosophers who have mainly influenced Western thought. According to the plan, each volume in the series will offer an estimate of one philosopher, retaining as far as possible, by translation where necessary, the very words the man wrote.

Teachers of philosophy and the cultured public generally will welcome this book on Leibniz. It is not exactly a popular book. Nor is it a book for experts. The French would doubtless classify it as *un livre de haute vulgarisation.* If this is typical of the standard to be followed in the monographs that will appear in this collection one may safely predict success for the undertaking. Leon Roth's book on Spinoza (the second volume in the series) certainly measures up to the standard.

Mr. WILDON CARR writes with fluent ease. He contrives to make his work both agreeable and scholarly. There is much erudition but it is not obstrusive. In many facile references to men and events and the current of thought amid which Gottfried Wilhelm Leibniz passed his long and active life, Mr. CARR discloses the breadth of his knowledge and gives his reader glimpses of his familiar acquaintance with the spirit and temper of the seventeenth century. The cosmopolitanism of Leibniz and his enthusiastic interest in intellectual culture make him a thoroughly characteristic figure of that remarkable period.

Science, mathematics, diplomacy, history and philosophy were all actively cultivated by the élite of that age—the age of Louis XIV, Bossuet, Bayle, Locke, Newton and Spinoza—and in each of these pursuits Leibniz took his part. His name is associated with the discovery of the infinitesimal and the differential calculus. His criticisms of the Newtonic system anticipated by nearly two hundred and fifty years the specific objections raised by our contemporaries (Eddington and Meyerson, for instance) against the mechanistic theory prevalent in scientific circles right down to the present generation. Amid

the multifarious occupations of his busy life, Leibniz worked with tireless application upon his history of the House of Hanover in view of the claims of that royal House to the throne of England. The valuable collection of documents which he amassed bearing on this question indicates the thoroughness of his historical methods and the painstaking zeal with which he worked upon his problem. His ability as a diplomat was recognized in all the courts of Europe. His services in this capacity were eagerly sought by several Continental governments.

In spite of the versatility of Leibniz's genius, his name has come down to posterity chiefly because of his profound and original philosophical views. Yet Leibniz never regarded himself as a professed philosopher. His interest in philosophy appeared really to be subsidiary to his other interests. The only work of Leibniz published during his lifetime, the *Théodicée,* was written in answer to a challenge of Bayle. Bayle had endeavored to prove that faith and reason are irreconcilable. Leibniz set himself to refute this position and, repudiating the Cartesian definition of substance and the proof of God's existence and nature by the so-called "Idealistic" method, composed this lengthy treatise on natural theology. The famous work known as the *Monadology* was not published until long after Leibniz's death. And the work which was most distinctively Leibnizian, *Les nouveaux essais,* written against Locke and left unpublished because Leibniz could get no reply to his letters to Locke, was quite unknown to his contemporaries. Yet it is through the influence of these works, written only as occasion arose, and through his extensive private correspondence that the philosophy of Leibniz has been preserved. It is as the philosopher that Leibniz is known today and it is to this side of that many-sided genius that Mr. H. WILDON CARR devotes his study.

Mr. CARR'S monograph reveals his thorough knowledge of Leibniz's system and his deep sympathy with the spirit of that philosophy. However, to say that Leibniz "has come to represent in the modern world what Plato stands for in the ancient" (p. 55) is pressing the thing a little too far. Edouard LeRoy said something of the kind about Bergson. It appears to be somewhat of a stock expression, as devoid of significance as it is suggestive of irresponsible criticism. And I am inclined to think that a good many will take exception on more than one score to the following statement: "The City of God which Leibniz extols (in the conclusion to his *Monadology*), 'this truly universal monarchy' as far excells the ideal of St. Augustine, who

provided its prototype, as the new dispensation which the Apostle Paul proclaimed excelled the narrow ideal of the Jewish nation from which he derived it." (p. 127)

Besides, there is a problem, or a phase of a problem, in the philosophy of Leibniz upon which Mr. CARR's work gives little or no light. The circumspection with which Leibniz sought to preserve his reputation for Christian orthodoxy reflects the influence of the diplomat on the philosopher. When writing less for the learned public of his day and more for the purpose of developing his own thought (as for example, in the *De rerum originatione,* in the *De veritatibus primis* and in the *Opuscules et fragments inédits*) Leibniz expresses a deeper sympathy for the pantheism of Spinoza than it would, perhaps, have been prudent to disclose in his correspondence. Although Clodius Piat discusses this point at some length in his volume on Leibniz (*Collection des grands Philosophes,* Paris, 1915) Mr. CARR makes practically no reference to it. In fact Mr. CARR's estimate of the philosophy of Spinoza is quite deficient. The same may be said of his treatment of Locke's philosophy which he endeavors to simplify beyond all measure. This naturally weakens one's respect for his opinion on these matters. His judgment on Leibniz is sure and his knowledge extensive. But on Leibniz's contemporaries, Mr. CARR is unreliable.

It were ungrateful to insinuate by such criticism that this volume is anything but a valuable book. On the contrary, it is a brilliant work, replete with information and enlightenment. The final chapter entitled "The New Physics" opens up an avenue of thought leading from the philosophical criticisms of Newtonic physics as indited by Leibniz to the views of contemporary thinkers regarding the nature and function of scientific investigation and its methods, for which many readers will thank Mr. CARR with deep sincerity and appreciation.

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Spinoza. By LEON ROTH. Boston: Little, Brown and Co., 1929. Pp. xli + 250.

LEON ROTH, Ahad Ha-Am Professor of Philosophy in the University of Jerusalem, has written a really readable book on Spinoza. Neither Pollock nor Joachim can be said to have put the system of the great

Spanish-Dutch-Jew within easy reach of the general student of philosophy, however valuable their works have proved to be to scholars expert in this field. I know of only one writer who has presented Spinoza's thought with anything like the clarity of ROTH. During the academic year 1912-1913, Victor Delbos delivered a course of lectures on Spinoza at the Sorbonne. These lectures were published in 1916, a few months before the author's death, under the title *Le Spinozisme.* Delbos' little work, especially when read in conjunction with the fifth chapter of his *Figures et doctrines de philosophes,* covers much the same ground as Professor ROTH's monograph. But there is this difference: Delbos offers a sympathetic yet critical estimate of the personality and thought of the Sage of Rhynsburg; ROTH has succeeded perhaps more notably in interpreting the elusive spirit concealed within the rigid geometrical dogmatism of Spinoza.

It may be correct to maintain, as Spinoza did, that if a person wishes to understand Euclidean geometry he need know nothing about the life and character of Euclid. But it is unquestionably true that whosoever would understand the philosophy of Spinoza must know a great deal about the man himself, the vicissitudes of his career, the spirit of the age in which he lived, the character of his mental outlook and the environment of his thought.

It is clear that Professor ROTH does not think that Spinoza can be forgotten or neglected in the study of Spinozism. Three distinct chapters of his work deal explicitly with the life and character of Spinoza, the sources and significance of his thought and the relations between Spinoza and his contemporaries. However, in spite of this, I find the treatment of this phase of his subject somewhat disappointing by the meagerness of details. The harassing incidents resulting from Spinoza's early quarrels with his orthodox co-religionists, his sporadic, almost flirtatious affiliations with various Christian sects, his rationalistic spirit of independence, impatient and resentful of dictation in religious matters, the consequent necessity he was under of framing for himself a system of thought and a guide of conduct uncontrolled by authority—these are points with which Professor ROTH inadequately deals. He fails to assign to them their due importance in determining the form which the philosophy of that "sorely-tried, plebian, international positivist" finally assumed in his troubled mind.

For, despite the tranquility of Spinoza's daily life, no one who has read the *Korte Verhandeling* or the *De Intellectus Emendatione* can fail to sense the mental ferment, the anxiety, one might almost say

the anguish of mind, from which these apparently serene and unimpassioned treatises issued. The fatalistic melancholy of Spinoza's thought, its insistent pantheism and the intense longing of his heart for the unattainable, the love of pure knowledge; these characteristics of his philosophical system have their roots deep in the mind of that powerful thinker disillusioned from this world yet lacking in the humility of spirit that is the *conditio sine qua non* of intellectual enlightenment.

ROTH's general outlook upon the philosophy of Spinoza deals with the subject according to a group of four characteristics of his hero's thought. Spinoza is primarily a moralist. Secondly, his system is strictly methodical and scientific in its orientation. Thirdly, his thought is consistent and synthetic. Finally, the entire structure of his philosophy is theocentric. Novalis pronounced Spinoza *ein Gottbetrunkener Mensch.* In the sense that Spinoza tries to identify God with "the all that is or can be" it is true to say that his philosophy is theocentric—although one might say with equal accuracy that it has neither center nor periphery—and that its author was inebriated with his pantheistic God.

In ROTH'S detailed treatment of Spinoza's thought he deals with the familiar topics—Substance and God, *Natura Naturans* and *Natura Naturata,* The Infinite and Finite Modes, The Attributes of God, The Grades of Knowledge and Conduct and the problems of finality, freedom and immortality. These points are discussed with thoroughness, sympathy and skill. The author's effort to expound with simplicity an acknowledged complex system is more successful than one might reasonably anticipate in a single volume of rather modest dimensions.

There is a note of optimism in the final chapters of this monograph which might be regarded as the clarion call to a Spinozistic revival. ROTH speaks of the problem of science and religion in our day as a question upon which we might well invoke the aid of both the scientific and religious preoccupations of the seventeenth century sage. A new spirit is undoubtedly abroad in the world of science and philosophy. Professor J. W. T. Patrick gave expression to that spirit when he wrote in his recent work *What is the Mind:* "Philosophy and religion must never again be divorced from science." But I fear that ROTH'S reliance upon Spinoza for help in this new situation will prove to be as futile as Patrick's appeal to biology.

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Archives de Philosophie. Vol VI. Cahier I: *La vie et l'Évolution.* By BURDO and others. Paris: Gabriel Beauchesne, 1928. Pp. 132.

This volume consists of critical essays by seven authors on various theories of life and evolution.

CHRISTIAN BURDO gives an analysis of contemporary vitalism. Recognizing that a large number of biologists are mechanists, he notes the tendencies of a vigorous minority toward vitalism. Chief among these are Driesch and Rignano. The vitalism of Driesch has undergone considerable change, but at no time could his entelechy find a fitting place in traditional hylomorphism. His *psychoids* or non-mechanical agents represent neither the entelechies of Aristotle nor the substantial forms of the Scholastics.

RIGNANO occupies a position apart. He thinks that the purely verbal and mystical explanations of Driesch and Bergson have brought discredit on vitalism in any form. Life, according to Rignano, is a form of energy. It is the constant exchange of specific energetic reactions that constitutes life. To explain development Rignano proposes his centro-epigenetic theory; *centro*—because the energy proceeds from the germ cells, and *epigenetic*—because as the cells are divided off from the germ cells, they become specialized in different systems. The central cells receive impressions from the parent organism—the vital energy is therefore mnemonic. This would account, says Rignano, for the inheritance of acquired characters. The difficulty with this theory is that we know nothing positive about this form of energy. There is further no mechanism known whereby the germ cells could receive the impressions, and as yet no authentic proof for the inheritance of acquired characters.

Unsatisfactory as the theories of some vitalists are, the author finds on turning to the results of experimental science, that the latter has failed to bridge the chasm between living and non-living. And that chasm seems deeper, if not wider, with the progress of science.

P. LE ROY discusses the cell-theory. This theory, as generally understood, is of course well established, but there are biologists who regard smaller units (e. g. mitochondria) as the morphological and physiological units of living things. Again there are others who assign to the cell an exaggerated rôle in regarding the organism as a mere aggregate of independent cells. The author presents sound arguments from biology to prove that there are no infra-cellular autonomous vital units, though

there exist living products of cells. Again the organism is not a mere colony of cells, but is something more than the mere sum of the cells which compose it. The organism rather dominates the formation of cells and uses them for its purpose.

A more difficult problem is that of the life of individual cells separated from the organism. Cells not only live but grow and multiply when detached from the parent organism, as in tissue culture *in vitro*. The author thinks that the individual cells have a partially autonomous principle of life, which is potential only when forming part of the organism, but becomes actual on separation.

The views of Brachet, the noted experimental embryologist are analyzed by R. COLLIN. Brachet does not accept any theory of a vital force, nor the entelechy of Driesch, but is content to speak of *la forme vivante d'énergie*. But the objection naturally arises: this form of energy is not subject to methods of measurement as is physical energy.

A. POLICARD gives an account of the results so far obtained of cultivating tissues *in vitro*.

CUÉNOT gives a critique of Darwin's theory of natural selection. Selection acts merely as a negative factor; death eliminates the weakest and thus conserves the average type. Moreover, selection allows to develop rapidly types which are *pre-adapted* by reason of their constitution relative to the environment. It does not produce adaptations by gradual additions; the small variations have generally no survival value.

VIALLETON discusses types of organization. He treats first of the characteristics of living things as distinguished from non-living. An exception may be taken to his statement that the indefinite transmission of capacity to live requires conjugation even in the lowest organisms. This has been proved not to be the case in some uni-cellular organisms.

The types of organization correspond to the higher categories of classification such as birds, mammals, etc. These differ essentially from one another; each possesses a unitary plan not only in the adult structure, but also in details of development. Contrasted with this first group is a second based on quite different criteria, namely, *les types formels*. This group includes the lower categories as sub-orders, families, genera and species. These have the same general nature and are divided according to special characteristics which are mainly quantitative. While the first group forms a hierarchy of categories, the mem-

bers of the second are placed on the same level. This distinction, Vialleton says, Darwin failed to make.

R. DE SINÉTY in the final article gives a critique of P. Teilhard de Chardin's theory of the *Biosphere* and M. E. Le Roy's philosophical development of that theory. The term biosphere as used in science refers to the superficial layer of the earth made up of organisms, which covers the lithosphere or rock layer. T. de Chardin gives the term a new signification. For him it is not a mere collection of distinct individuals. Life is a physical reality distinct from living things. It is difficult to see how organisms can constitute *one* physical reality. As de Sinéty states: "*La vie est commune à l'ensemble des vivants, mais comme les autres Universaux, son unité est une unité abstraite, conceptuelle.*" The author therefore rejects de Chardin's theory of the biosphere as a physical reality and likewise the Bergsonian conception of it as developed by E. Le Roy.

The essays making up this volume are models of objective criticism, and one can only wish it were more frequently met with in discussions on evolution.

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The Catholic University of America.

Le Saint-Esprit et Ses Dons selon Saint Bonaventure. By J.-FR. BONNEFOY. Paris: Librairie Philosophique J. Vrin, 1929. Pp. 237.

In this thorough and scientific treatise, the author not only illustrates the doctrine of St. Bonaventura which the title indicates but gives us a splendid introduction to a study and love of all of the works of the Seraphic Doctor. It is one of the most recent contributions to the study of medieval philosophy. Read in connection with *L'Exemplarism Divin selon Saint Bonaventure,* by J. M. Bisson, and *Sancti Bonaventura Doctrina de Gratia et Libero Arbitrio,* by Father Georgio Božitković, it gives one a clear, panoramic view of the teaching of St. Bonaventura on the Holy Ghost.

The author devotes the Introduction to a brief life of the Saint, stressing his literary activity, indicating his principal works and the circumstances under which they were written. The principal works of St. Bonaventura are listed chronologically and there is appended a list of his works which are less important and of doubtful author-

ship, as well as those the date of which is not known. He states briefly the rôle which the Saint played in the University Question.

The doctrine of St. Bonaventura on the Holy Ghost is the traditional Catholic doctrine and his teaching is not only influenced but formed by the Augustinian and the Victorin Schools. The Saint himself tells us that it is not his intention to combat more recent theories nor to present a new doctrine but to compile the traditional doctrine of the Church.

The purpose of the author is to treat only of the gifts of the Holy Ghost, strictly so-called. It is necessary, however, to preface this particular study by a brief exposition of *Donum Increatum* for *donatio perfecta* is realized only in the Trinity. Hence, to understand the gifts of the Holy Ghost *quoad nos* it is necessary to know the teaching of St. Bonaventura on the eternal procession of the Holy Ghost. The author also treats of *dona in genere* for it is in this that the differentiation of theological systems consists more than in a monography of the gifts. The *dona in particulari* must always be interpreted according to the meaning that each author ascribes to the *dona in genere.* The treatise is divided into three sections.

The first section treats of the eternal existence of the Holy Ghost and the author proves that the Saint had a specific grasp of the tradition which he represents. St. Bonaventura directs his arguments only to souls purified by faith and illuminated by the superior gifts of grace. It is not his intention to prove the doctrine from reason but to prove that, far from contradicting reason, it is in perfect accord with it. This first section is a delightful presentation of the life of God, life in the Trinity. The existence of the Holy Ghost is set from the infinite goodness of God, His infinite perfection, His simplicity and His primacy. Then, the eternal procession of the Holy Ghost and His twofold relation to God and to the human soul—for besides the *donatio aeterna* there is the *donatio temporalis*—the Holy Ghost is ours and gives Himself to us.

In the second section, the author treats of the gifts of the Holy Ghost in general. In the Trinity, He is called *amor Dei* but since he also dwells in the human soul and produces in it His ten effects, the Spirit is called *gratia.* He creates it anew, illumines it, renders it like unto God, unites it to Him, establishes it in Him, renders it agreeable in His sight and elevates it. His splendor inspires a love of the light and a horror of darkness. The author amply treats the

gratuitous gifts, the distinction between the virtues and the gifts, their superiority over the virtues, their activity in the soul, and their number.

In the third section of the book he treats of the gifts of the Holy Ghost in particular. After studying the doctrine of the eternal existence of the Holy Ghost and His relations to God and to man, we more clearly see the specific influence of the Holy Ghost in the seven gifts. Each of the gifts is treated individually and amply. A chapter is subjoined on contemplation—the special and perfect gift given to certain, purified souls. Two schematizations are given in the appendices, the gratuitous gifts and the spiritual life and the relations between the gifts of the Holy Ghost and the petitions of the Our Father, the faculties of the soul, the capital sins, the virtues, and the beatitudes. Their value is homiletic.

A study of this book is necessary and profitable to understand the mystical doctrine of St. Bonaventura. Before one can understand his mystical teachings as referring to human knowledge it is necessary to know his doctrine of the Holy Ghost, for it is the love of God that pervades all of his writings. His philosophy is not far from the ideal Catholic philosophy for there is One Truth and all human truth can be brought back to God *per Spiritum Sanctum qui datus est nobis.*

CONRAD O'LEARY.

The Catholic University of America.

Man a Machine. By JOSEPH NEEDHAM. New York: W. W. Norton and Co., 1928. Pp. 103.

This little volume of the New Science Series by the professor of biochemistry in Cambridge University is "in answer to a romantical and unscientific treatise written by Sig. Eugenio Rignano and entitled *Man Not a Machine*". The author recalls that a work with a similar title to Needham's was published in 1748 by La Mettrie and was followed four years later by an anonymous work *Man more than a Machine.* To the discussion of these works the author devotes over one-quarter of his essay.

Against Rignano's view that teleology is a unique characteristic of living matter, Needham argues that (1) there is not as much teleology about the living organism as some suppose; (2) what teleology there is,

is not unique or characteristic of life; and (3) if it were, it would have no scientific significance. Phenomena cited to support these opinions are taken chiefly from cellular behavior and the mechanistic interpretation is given. Admittedly inadequate, the author believes it at least gives promise of an explanation. Again he observes that Henderson has shown that the inorganic world reveals as much teleology as do living things. Finally, since teleology is not quantitative, it cannot be weighed or measured, and therefore, be scientifically treated. But Rignano, Driesch and others do not take so narrow a view of science.

As a methodology, mechanism does make for progress in discovery, and as long as it is regarded as a "methodological fiction" no great harm can follow. That there is something more than mechanism in life the author admits when he says: "If I do not believe in it for a moment as a man, I recognize its fundamental importance as an experimentalist." It would perhaps be more appropriate, therefore, if the author had adopted the title of the work of La Mattrie's antagonist: ***Man more than a Machine.***

CORNELIUS J. CONNOLLY.

The Catholic University of America.

L'Exemplarisme Divin selon Saint Bonaventure. By J. M. BISSEN. Paris: Librairie Philosophique J. Vrin, 1929. Pp. 304.

This book, the ninth volume of the series, *Études de Philosophie Médiévale,* is a welcome contribution to the literature called forth by the present-day increasing interest in the philosophy of the Augustinian-Franciscan School and in its principal mediaeval representative, Saint Bonaventura. It is a careful, thoroughgoing study of one of the most characteristic doctrines of the Seraphic Doctor. In the words of the author, the purpose of this work is to give "an accurate objective description and a faithful interpretation" of Saint Bonaventura's teaching on the doctrine of exemplarism. In the numerous quotations from the works of Saint Bonaventura, the author succeeds very well in letting the Saint speak for himself. Most readers, no doubt, will agree that "he is his own best interpreter," and that the method followed in this book gives a very satisfactory account of his thought. Frequent reference is made to the Commentary on the Sentences and to the *Quaestiones Disputatae;* much attention is likewise given to the *Breviloquium, Itinerarium Mentis in Deum, De Reductione Artium*

ad Theologiam, and *In Hexaëmeron,* works in which the doctrine of exemplarism receives its most complete expression.

After defining exemplarism as "the doctrine which teaches how God is the prototype of all that is, and the manner in which things are in Him," the author points out the twofold objective of the work; namely, the study of God in so far as He is the exemplar of everything, and the study of the creature in so far as it imitates the creative Exemplar. In the study, attention is concentrated on three principal points summarized as follows:

(1) God is the exemplar because He possesses in Himself the ideas of things. (2) These ideas are the forms by which He knows beings, and the exemplars according to which He produces them. (3) This exemplary causality God possesses in relation to all beings; for all, before being produced, exist in Him, and have in Him, as well after as before their production, a being more true than that which they have in themselves.

The first part of the book is divided into two sections. The first section, under the general title, "Des Idées Exemplaires," treats of the perfection of the ideas in God, God's knowledge of things by means of their exemplary ideas, and the modes of being of the ideas in God, and closes with a summary of the characteristics of Saint Bonaventura's theory of ideas and a comparison of his teaching with that of Saint Thomas. The second section, "Du Verbe Exemplaire," an exposition and interpretation of Saint Bonaventura's statement that it is possible to know the origin, end, and significance of things only through a knowledge of the Second Person of the Blessed Trinity, the Word of God, gives in considerable detail the Seraphic Doctor's explanation of how all things have their origin in the Word; how every thing exists in the Word before it has its own individual, external existence; and how all the expressions of God in creation are contained in and conditioned by this signal, infinite expression, the Word.

The second part of the book, "De l'Influence Exemplaire de Dieu," deals more specifically with the theory of knowledge. The first three chapters contain a general summary of Saint Bonaventura's teaching in regard to the nature of truth, truth in God and in the creature, the natural light of the intellect, the insufficiency of this natural light for attaining to certitude of knowledge, the necessity for Divine illumination, and the conditions of Divine illumination. Then follows an analysis of the doctrine of knowledge in the eternal reasons. In an

interesting chapter, the author sketches briefly the historical significance of the doctrine of exemplarism, the influence of Saint Augustine, and the attitude of mediaeval philosophers toward the doctrine. The final chapter of the book treats of the exemplary influence of God upon the will.

SISTER M. RACHAEL.

The Catholic University of America.

Compendium Universitatis Parisiensis. English translation by ROBERT BELLE BURKE. Philadelphia: University of Pennsylvania Press, 1928. Pp. 115.

The glory that was the University of Paris, when, as center of the intellectual world and successor to the schools of ancient Athens and of old Rome, her fame spread to the ends of the earth and students from every land flocked to her halls, prompted one Robertus Guletus, Professor of the Sacred Page, to write in 1517 this unique and interesting conspectus of the University, which Professor BURKE now translates into English. In the license notice prefixed to the work we find a fairly accurate summary of its contents: "Compendium Recently Published on the Multiform Magnificence of the University of Paris, on its Dignity and Excellence, on its Founding and on the Extraordinary Reputation of its Subjects, Officers, and Colleges. In Addition a Supplement on the two Arts and a Heptadogma on the Erection in Our Times of a Gymnasium, together with Many Other Useful Precepts."

The author quotes from several chronicles which are pretty well agreed in placing the founding of the University in the time of Charlemagne. The actual founding is attributed to four monks, Alcuinus and Rabanus from England, Claudius and Johannes from Scotland.

The University consisted of four Faculties ranked in the following order: the most sacred Faculty of Theology; the most learned Faculty of Decrees; the most salutary Faculty of Medicine; and the famous Faculty of Arts. Each Faculty was presided over by a dean. In the Faculty of Theology, the dean was the doctor who had held his degree longest, while in the other Faculties the office was elective. A striking characteristic of the mediaeval university was the electing of officers by the student body.

The largest and most interesting of the Faculties was the Faculty of

Arts. This Faculty was divided into four Nations, which in turn were divided into Provinces. The dean of this Faculty, chosen by the four nations, was rector of the University. Strange as it may seem today, the rector's term of office was three months and four elections for the office were held each year. Besides his academic duties, the rector sat as judge on Monday, Wednesday, and Friday and passed judgment on many cases involving students.

Two chancellors governed the University, one for the Faculty of Arts and one for the other three Faculties. The chancellor's conferred the degrees. In ranking the bachelors for their master's degree in theology, each master of the Faculty presented his list privately to the chancellor, who made up the final list by striking a balance among those thus presented to him.

The spirit of the University was, of course, thoroughly Catholic. In the beginning of this work, therefore, is inserted "a very devout prayer of the sainted Thomas Aquinas to be said by every loyal student before he studies, reads, or preaches". Due attention is also given to the celebrating of Masses and the Divine Office, and to the question of benefices for ecclesiastical students. Even the "Order of Procession" on festival days is carefully set down.

Many other quaint and interesting points on organization and procedure might be mentioned, but we shall close by citing from the fourth precept of the seven laid down for founding a gymnasium.

"Section Four on the Distribution of Afternoon Hours and on Granting Relaxation.

"There should be frequent Repetitions after both the noon meal and the evening meal . . . in order that the youth may not become torpid from enervating idleness. . . . it would not prove unprofitable to have a public reading of some poet or orator or one on morals during the first or second hours of the afternoon. . . . Then from the third to the fifth hour lectures should be given, and Disputations from the fifth to the sixth. After the evening meal, if there be one, Repetitions should be given. . . . Many injuries to youth will be found to result from late hours. They should rise in the morning at the fourth hour, at least the more studious ones, and all without distinction at the fifth hour. . . . On Sundays, Tuesdays, and Thursdays students should have moderate relaxations. Lectures, however, should always be given. . . . On these three days the pupils may enjoy roast meats; never, however, at the noon meal, unless there be an exceptional event. . . ."

Times and methods have changed, and some at least will be happy that they have.

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Ueber das Entstehen von Gestalten. Beitrag zur Phaenomenologie der Wahrnehmung. By AGOSTINO GEMELLI. Leipzig: Akademische Verlagsgesellschaft, 1928.

This is a study of the phenomenology of perception, and is one of a series of similar studies emanating from the psychological laboratory of GEMELLI of the Sacred Heart University in Milan.

The purpose of this specific experiment is to determine in what manner 'meaning' becomes attached to perceptual organization (*anschauliche Organisation*), and how it fuses with it into a unified psychological structure. Also, to examine what value and function is to be attributed to the fusing of 'meaning' in the construction of *objects* of perception.

In contrast to the *Gestaltslehre* GEMELLI and his school hold that perception is the result of a perceptive *synthesis,* i. e. the "aspects" or "parts" of a perception form a whole, and these aspects are perceived simultaneously in their interrelatedness, and in the same space in which the *Gestalt* is perceived. Thus e. g. it is impossible to perceive a group of points without connecting them by means of imaginary lines and thus unifying the figure. GEMELLI and the *Gestalt* psychology both hold to the evident fact that in every figure there is more contained than the sum of its parts. The *Gestalt* psychology tries to account for the plus with the *Praegnanz der Form,* whereas GEMELLI agrees with Katz and Jaensch in attributing it to central transformation.

Every perception is an *anschauliche Organisation,* a perceptual, organized whole. But it is also more, because it is seen in relation to its environment; it is a *thing,* an *object.* We do not experience colored surfaces, but things that have meaning. This meaning is the intellectual element in experience and is original and essential to it, not something attached to a perception externally or by mere association.

In his sixth law GEMELLI says, in actual life we do not perceive perceptual units such as figures, melodies, etc., but objects with very definite meaning. We are most interested in the 'what' of things.

This what is only perceived, because the perceptual organization carries a meaning. By it we are enabled to know things as such, their size, measurements, number, similarity or dissimilarity, etc. The connection between the perceptual whole and this intellectual element (meaning) is so intimate that without it perception becomes imperfect and useless. It is the purpose of perceptual organization to permit classification of objects of perception according to meaning.

The present experimental study has for its purpose the substantiation of this law. The method used was that of the analyzing picture, known as the Cohl system, recently perfected by B. Babier. There follows a series of laboratory reports.

Summing up the results GEMELLI says that perception is a constructive synthesis. The objects of the external world act upon our sensibility and provoke definite, specific reactions. The sense data alone therefore do not explain perception, for perception cannot be conceived as a mere fusion of sense data. Much more important is our subjective attitude toward the external world which permits us to incorporate in consciousness the perceptual organizations according to their meaning. This makes clear the teleological nature of perception: objects present themselves as having meaning, and only because of meaning can we know objects as such.

So much can be established phenomenologically. The question of 'objectivity,' and 'nature' of perception is one for criteriology and ontology to decide. Psychology is at last moving definitely in the direction of the psychic. Once all the phenomenal data are scientifically established in experimental psychology we shall more clearly see the folly of the a priorism of the behaviorists and structuralists, and the insufficiency of the *Gestalt* psychology. It is of paramount importance for New Scholasticism that this work be undertaken by GEMELLIES, Michottes, and Lindworskies and other equally qualified, for only so can we hope to have our psychologies written by psychologists. Froebes is such a psychologist.

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CURRENT PHILOSOPHICAL REVIEWS AND BOOK NOTES

The Journal of Philosophy—Vol. XXVI, No. 4: February 14, 1929.

Sidney Hook: What is Dialectic? (I) A detailed criticism of the definitions of: (A) Mr. Adler, (B) Dr. Bogoslovsky, and (C) Jonas Cohn. **Oskar Emil:** The Missing Link in Human Understanding. Behaviorism has apparently failed to explain the facts without consciousness. The tendency is to believe again in things spiritual as well as material. We suppose that matter exists because we have experienced it. We must do the same for consciousness.

The Journal of Philosophy—Vol. XXVI, No. 5: February 28, 1929.

Sidney Hook: What is Dialectic? (II). A naturalistic position as concerns dialectic is defined descriptively. A dialectic situation is one in which we are continually compelled to re-define our terms in the course of our analysis. Dialectic resolution has movement and direction. Dialectic supposes the existence of a whole and parts. The relation of dialectic to consciousness and to time is discussed.

The Journal of Philosophy—Vol. XXVI, No. 6: March 14, 1929.

H. G. Townsend: A Persistent Motive for Social Organization. What is the origin of society? Society is not composed of persons externally related to each other by contracts and conventions; it is the outgrowth of a persistent motive or instinct. That motive is a general impulse toward wholeness, a seeking for a greater unity. **J. R. Kantor:** Language as Behavior and as Symbolism. Spoken language does not consist essentially in the setting up of symbols. It is behavior. To speak is to adapt oneself to a situation. The confounding of language with symbology has its roots in a number of traditions, e. g. the idea that language is an instrument for the expression and communication of thought.

The Journal of Philosophy—Vol. XXVI, No. 7: March 28, 1929.

Ernest Nagel: Nature and Convention. Conventional viewpoints are necessary in scientific investigations, but their use does not necessarily vitiate the results. The fact that science does not exhaust the wealth which is nature does not make it partially false. **Henry Bradford Smith:** Meaning. "A judgment of fact which can receive no experimental confirmation is neither true nor false because it is meaningless." **C. Judson Herrick:** The Limitations of Science. Professor Lillie asserts that the electron is more a subject of science than the human being because it has less individuality. In reply the author asserts the opposite because science is empirical and we have more experience with human being than with electrons.

The Philosophical Review—Vol. XXXVII, No. 6: November, 1928.

Abel Rey: French Philosophy in 1926 and 1927. A summary of the recent literature and developments in France in the fields of metaphysics,

history of philosophy, psychology and sociology. Bergsonism and Thomism, two influential forces operative at the present time, have largely given to French philosophy its present characteristic: "A general converging towards an intellectualistic philosophy, which is incomparably more sensitive, plastic and significant than the former intellectualism, and which in some degree restores to reason and intelligence their rights." **Arthur Liebert:** Contemporary German Philosophy. Noteworthy in the philosophical studies recently published in this country is Kurt Singer's new interpretation of Plato's doctrine—that Plato was concerned less with metaphysical or ethical theories than with the beatification and welfare of the soul. Kant's relation to Protestantism is treated by Hans Rust. Wolkelt's three-volume *System der Aesthetik* is an elaborate analysis of the relations of aesthetics to metaphysics and ethics. Beyond a general recognition that philosophy should be founded on a basis independent of the natural sciences, there is no thread uniting all philosophical thought in Germany today. **Arthur E. Murphy:** What is an Event? Contemporary philosophers have avoided the error of their predecessors of considering objects abstractly, apart from their contingent and transitory character. The word "event" conveys the new notion of reality. "Event" itself, however, has come to mean an isolated and self-complete reality. "This 'event', instead of being the contingent and complicated sort of occurrence that we know, is just an element in an absolute, four-dimensional continuum whose geometrical structure constitutes its intrinsic nature." Whitehead himself has been guilty of this fallacy of misplaced concreteness. The writer emphasizes that "event" is simply the occurrence of the object, and has no existence independent of the object occuring. **William W. Brewton:** Justice by Technicality: A defense of the technicalities of law. Laws are formulated with a view to giving the greatest justice to the greatest number. They are founded upon the experience of the past. "The law must have fixed rules which maintain for society a guaranty of legal right, though because of this very fixity what might be called a complete and fitting measure of right in a single case is defeated." The nature of law as a science and the force of its coercive power are treated in relation to the problem of technicalities.

The Philosophical Review—Vol. XXXVIII, No. 2: March, 1929.

Felix Adler: The Ethical Problem. The ethical problem is that of reconciling the fundamental spiritual equality of all men with the inequalities of wealth, position, intelligence, etc., which have obtained in every social structure thus far. The attempts of Hebraism, Christianity and Socialism to harmonize these principles have failed, because of an exaggerated emphasis on one or the other principle. What is needed is a new understanding of the ideal for which men strive. It is not merely unity, but unity arising from variety, that should be the guiding force of human natures. Hence in *group* action, where the individual in his appointed field works with a view to the good of others and of the whole, is to be found the solution. **Ralph M. Blake:** The Rôle of Experi-

ence in Descartes' Theory of Method. Descartes' theory of method was a blend of the empirical and deductive techniques. "Despite all appearance to the contrary, the physical sciences, in the Cartesion conception of the matter, rests upon a solidly empirical basis." The general explanatory principles of these sciences are obtained in an a priori way, but they receive confirmation and definiteness from experience. Descartes himself was an indefatigable investigator of nature's secrets. **William Curtis Swabey:** The Regulative Idea of a Cosmos. In the choice between two hypotheses, both of which explain the facts, inherent plausibility, and not thought-economy or convenience, is normally the deciding factor. This is due to the fact that there is present a supposition that a regulative force is operative in the universe, which accomplishes the greatest possible effects by the least possible means. Hence it is always more reasonable to choose the simpler hypothesis as the more probable. This concept of cosmic teleology and rational harmony "not only tells us to accept the simplest hypothesis which will explain the facts, but also that any given hypothesis will probably not do justice to the infinite richness of reality."

The Personalist—Vol. X, No. 2: April, 1929.

Ralph Tyler Flewelling: Socratic Civilization in Conflict. Western civilization has been built on the principles of Socrates. Today it is being undermined by a skepticism which denies freedom and consequently moral value. At this critical era the West finally finds that it must face the East and settle the old differences. The future of the world depends on whether the best or the worst of these two civilizations merge. **Max Schoen:** The Catharsis of Art. All desire escape from the real. Art supplies this escape. Hence realism is not the highest form of art. **Yu-Shan Han:** Some Aspects of Ancient Chinese Poetry. A discussion of Chinese poetry from 800 B. C. to 500 B. C. **J. H. Muirhead:** Coleridge as a Philosopher: III. The Main Current. "Coleridge held that the 'unconditional and absolute ground of all that exists' must consist in some supersensual essence 'which being at once the ideal of the reason and the cause of the material world is the pre-establisher of the harmony in and between both'." His theory of knowledge made the sense out of the mind not the mind out of the senses, as Locke did. Coleridge held that God's existence could not be proved but must be assumed to explain the world.

Psychological Review—Vol. 36, No. 2: March, 1929.

Carroll C. Pratt: Theoretical Studies from the Harvard Psychological Laboratory: Faculty Psychology. Much of the criticism against the faculty theory in psychology is based on a view of both the subject-matter and method of this science which cannot stand the light of critical analysis. It is objected on the one hand that to postulate faculties is to make an unscientific concession to the layman's view of mind. But this objection, the writer says, really amounts to the assertion that the mind, in its normal operations, is not within the province of psychology.

If this is a true view of the matter, then "many meanings, values, purposes, memories, motives, recognition, hopes, fears, aspirations, doubts, longings, interests, reasonings, volitions, *Bewusstseinslagen*, and what not, fall cleanly outside of psychology." The second objection, that to postulate faculties is to introduce interpretations and explanations into a science which should confine itself to the observation of facts, represents an exaggerated notion of the rôle which observation plays in science. "Observation is only a part of scientific methodology." The formulation of hypotheses, that is, explanations and interpretations of phenomena, is not only desirable but necessary for scientific progress. Spearman's hypothesis of general mental energy, for example, is an illustration of how sound speculation can bring order out of chaos and give isolated psychological data a rich and fruitful meaning. This article should be read by every philosopher.

Havard Theological Review—Vol. XXI, No. 4: October, 1928.

Kirsopp Lake, Robert P. Blake, and Silva New: The Caesarean Text of the Gospel of Mark.

Harvard Theological Review—Vol. XXII, No. 1: January, 1929.

James Thayer Addison: The Ahmadiya Movement and Its Western Propaganda. **Robert P. Blake:** The Athos Codex of the Georgian Old Testament; The Georgian Text of Fourth Esdras from the Athos MS.

Harvard Theological Review—Vol. XXII, No. 2: April, 1929.

Roland Herbert Bainton: The Development and Consistency of Luther's Attitude to Religious Liberty. **Benjamin W. Bacon:** As to the Canonization of Matthew.

Revue de Philosophie—29e Année, No. 1: Janvier-Fevrier, 1929.

M. Grabmann: Le Fondement divin de la Vérité humain d'après saint Augustin et saint Thomas. (Deuxième article.) St. Augustine's theory of illumination is described as attributing all human knowledge to a "light" emanating from God. The following questions are discussed: (a) Is this perception immediate? (b) Is this light created or uncreated? (c) How does the intellect act in forming concepts? **S. Moreau-Rendu:** La Préparation du Rousseauisme. Optimism similar to Rousseau's is to be found in a number of his predecessors. Protestantism and Jansenism, on the other hand, made human nature necessarily evil. Tired of controversy many turned to indifferentism. **A. Harlaire:** Que peut un homme? La puissance et la personne. Modern thought no longer concerns itself with the question of what a man is; it is only what can he do. The tendency of all modern ethics is that a man can do everything. In neglecting ontology they affirm that a person is not known by his acts but is only what he is in act. We face the dilemma that man is entirely act like a pure spirit or that our personality is discontinuous. **D. Lallement:** La Doctrine Politique de saint Thomas d'Aquin. III. La question

du meilleur régime. Is one regime better than another for the good of a commonwealth? St. Thomas recognizes various kinds of government. It is not important who has the power as long as the rights of all are respected. The question of a best regime is not only the question of an absolute best, but also what is the best under different circumstances, what is the best for each state, and what is the best attainable at present.

Recherches de Théologie ancienne et médiévale—Tome I, No. 1: Janvier, 1929.

D. B. Capelle: L'origine antiadoptianiste de notre texte du Symbole de la Messe. **André Wilmart:** La tradition littéraire et textuelle de *l'Adoro te devote* (I). **D. O. Lottin:** Les dons du Saint-Esprit chez les théologiens depuis Pierre Lombard jusqu'à S. Thomas d'Aquin; Textes inédits relatifs aux dons du Saint-Esprit. **D. M. Cappuyns:** Note sur le problème de la vision béatifique au XIe siècle.

Recherches de Théologie ancienne et médiévale—Tome I, No. 2: Avril, 1929.

André Wilmart: La tradition littéraire et textuelle de *l'Adoro te devote* (II). **J. Lebon:** Le prétendu docétisme de la christologie de saint Grégoire le Grand. **A. Landgraf:** Anfaenge einer Lehre vom Concursus simultaneus im XIII. Jahrhundert. **M. Grabmann:** Note sur La Somme théologique de Magister Hubertus. **D. O. Lottin:** Alexandre de Halès et la *Summa de Vitiis* de Jean de la Rochelle.

Revue Néo-Scolastique de Philosophie—XXXIe Année, No. 21. Février, 1929.

M. deWulf: Écoles et Renaissances en Philosophie. The differential method in historical study is now in vogue. This method reduces all history to the study of individual, isolated facts. Applied to the history of philosophy, it would limit study to eminent philosophers, taken as individuals. The writer does not deny the value of this method. Great thinkers are individuals and imprint the genius of their personality upon their systems of thought. But these thinkers are not independent of other thinkers, nor are there lacking certain common trends of thought and general underlying principles which link up even great philosophers and give to them many resemblances which furnish grounds for comparison among them. Hence the comparative method of study has place in the history of philosophy, and complements the differential method. Schools of philosophy do exist, and the great thinkers of a given school are bound to one another by more and closer resemblances than they are to thinkers of foreign schools. Also true philosophical renaissances, in which the thought of great philosophers is rethought and reapplied, occur. But these facts demand the existence of resemblances among thinkers and a doctrinal patrimony shared by members of one and the same philosophic school. Finally, perenniality of philosophy is true in at least three senses: first, the antinomies of philosophy are perennially with us; secondly, certain systems of philosophy continue to serve as bases for the development and

adaptations of thought; and thirdly, certain solutions of philosophic antinomies ever remain superior to their opposite solutions. But this perpetuity of philosophy requires that resemblances or grounds for the comparative methods of study exist between philosophers and their systems of philosophy. **J. Maréchal:** Au Seuil de la Métaphysique: Abstraction ou Intuition. The first of three lectures given before the Institut Supérieur de Philosophie of the University of Louvain. The fundamental question treated in these lectures is the purely metaphysical and the purely experimental in human knowledge and the gate of entrance leading from the experimental into the metaphysical. Has pure metaphysics a threshold or entrance looking toward sensible knowledge? If so, how are we to cross this threshold into the sanctuary of metaphysics? The writer treats some of the most difficult and important phases of the knowledge problem. Metaphysics is based on the ontological absolute; experience looks to individual facts; how bridge the chasm between the relative and contingent and the absolute and necessary? What is the ground of the universal and necessary nature of the concept? Is the abstractive activity of the mind *transcendental* and does it contribute something *absolute* and *a priori*? Does the object of sensible experience contain a super-empirical element closely associated with the empirical element or, in other words, is every sensible perception also an intellectual apperception *sub ratione entis*, an ontological apperception? In solving these problems there are two alternatives: in our primitive apprehension of objects there is either an inexplicable parallelism between a purely empirical intuition and a metaphysical apperception, the latter constituting a true intellectual intuition, or an intimate and paradoxical synthesis of an empirical given with an *a priori* supersensible, the latter then having but the character of an intellectual intuition without ceasing to be an absolute function. The writer will consider these alternatives in his following two lectures. **N. Balthasar:** La Philosophie Moderne et sa critique. The writer follows M. Decoster in his criticism of criteriological principles in Descartes, Spinoza, Kant, Fichte, Hegel, and Bergson. He finds much with which to agree in Decoster's thought, but also some things to which he cannot subscribe. In his criticism of integral intellectualism, he concludes that it sins by defect, since it fails to appreciate a great part of the real, the necessary object of metaphysics. **H. MacDonagh:** La Notion d'être dans la métaphysique de Jean Duns Scot. In this second article on the notion of being in the metaphysics of Scotus, the writer considers the proofs of the unicity of being as found in the Subtle Doctor. This important discussion is to be continued.

Criterion—Any IV, Fasc. 14: Juliol-Setembre, 1928.

P. Miquel d'Esplugues: Àtoms i espectres: Substàncies i persones. Outlines the dualistic view of the cosmos and contrasts it with the monistic and positivistic views. **M.-M. Gorce:** Une philosophie de l'adaptation. The author discusses adaptation in philosophy and discovers in it a certain rhythm. This is particularly true in the field of social philosophy. **Miquel Soy:** Bossuet i la filosofia de la història. The criteria and principles which guided Bossuet in writing his Universal History. He also discusses

the relations of a philosophy of history to life. **Enric Bayon:** Els escolàstics i la teodicea d'Alfarabí. Discusses the theodicy of Alfarabí relative to the existence of God, His nature, and His relations toward the world, and contrasts this philosophy with the Scholastic view. **Bartomeu F. M. Xiberta:** Robert Walsingham, Carmelita, mestre de Teologia d'Oxford a primeries del segle XIVe. Outlines the metaphysics, theodicy, the Trinity, free will, and other teachings of Walsingham.

Criterion—Any IV, Fasc. 15: Octobre-Decembre, 1928.

J. Tusquets: Crítica de la Sensació. The validity of experimental knowledge does not presuppose the principle of identity, which nevertheless remains the absolute basis of human thinking. The concept of pure sensation is obtained by abstracting from a given image all spatio-temporal connotations and all perceptive elements. The receptibility of sensation is proved by five idiomatic arguments (universality of the passive voice in all human languages); this established, we have the key to a critical solution of the problem of sensation. Sensation is an act of incorporation psychically centripetal. An analysis of this act reveals the presence of two component elements strictly simultaneous: one the affective state of passivity in the subject, the other the manifested reality of the tangent object. Thus, the objective reality of pure sensation is proved without the objectionable recourse to the principle of causality, resented by the idealistic school. **J. M. Llovera:** Aristòtil: Perihermeneias. A critical version into Catalan of the first fourteen chapters of the said work of Aristotle.

Logos—Band XVII, Heft 3: December, 1928.

Rudolph Otto u. Subrahmanya Jyer: Moderner Vedānta. A short exposition of Indian philosophy serves as an introduction to the interpretation of the same as found in the philosophy of Sankara. Sankara's interpretation is presented by Dr. Jyer. Sankara was a teacher of religion, a mystic, a theologian and above all a man of action. In his study of the problem of truth he rejects theoretical hypotheses, ecstatic visions, authority and dogma and rests the method of its discovery solely upon the experiences of men. The quest for truth is motivated by the desire to know all things. Time, space and causality are unreal in so far as they are creations of the mind; they are only relatively true but are of value, for they serve to prepare the mind for the study of absolute truth or the truth in which there is neither conflict nor contradiction. The attainment of this truth is also the end of man. In proportion as we understand the undualistic character of every universal longing, will we understand Sankara's philosophy. An example of this is that the dream and waking state are but two aspects of the same urge and endeavor to know the truth. **Helmut Kuhn:** Die Aesthetische Autonomie als Problem der Philosophie der Gegenwart. The problem of aesthetic autonomy presents itself in the following two questions: First, what are the exact characteristics of art that will enable us to define precisely its limits; and secondly, from this fundamental conception can we elaborate the idea of autonomy that will guarantee to us the precision of these limits? The first question is answered

by holding that art is a branch of the theoretical cultural unity of a people and as such it has a definite relation to the other cultural forms. Thus its autonomy must be a principle included in the complete cultural scheme; and not emanating from itself. The writer develops this thesis by examples and concludes that in real art the idea represented in a sensible way must indicate the cultural unity of its author, the wider culture by which it is conditioned. **K. Loewith:** L. Feuerbach und der Ausgang der klassischen deutschen Philosophie. The opposition of Feuerbach to the system of Hegel represents the passing of the classical philosophy in Germany. Looking back we find that the differences are as follows: The formal and basic idea of the classical philosophy was the consciousness of the self. This self is subsistent and in its deepest nature is the spiritual consciousness. Because only man can philosophize, this self-consciousness must have an anthropological basis common to all. It is not only that by which man is subsistent but also that by which he knows. The unclassical philosophy of Feuerbach opposes this in the following principles: The formal principle underlying true philosophy is man as a thinking being, for he alone is self-conscious. The self is not subsistent as an individual but as a partaker in mankind. The spirit not only gives consciousness to the body but is itself conditioned by nature. Feuerbach's philosophy may be called radical since it is begotten out of that which is in direct opposition to philosophy. **Ernst Kohn-Bramstedt:** Ueber die Strukturidentitaet von Weltanschauung und Staatsauffassung bei Spinoza. A study of the social theory of Spinoza in which the kinship between his idea of the state and his metaphysics on the nature of God and the world is indicated.

Annalen der Philosophie—Band VII, Heft 9 u. 10: February, 1929.

August Seiffert: Ueber die Beziehungen zwischen Erlebnis und Begriff. A study in the relations between that which is experiential and ideas. In experience there is a pre-logical factor not only in the first phase of cognition but running through the entire length of a scientific structure. On the contrary, at least in natural science, there are no gaps such as would be had if we could have purely abstract or fictive ideas; but in this science there are only notions or rational conclusions involving by their very nature empirical relations. **Ernst Barthel:** Freiheit und Praedestination. According to the law of causality every event may be construed as the necessary consequence of an activity or cause. It must be remembered, however, that causality is no structural law of nature, but is an intellectual category as Kant taught. Furthermore, causality is differently represented as, for instance, the movement of an object due to an impulse, and the solution of a problem due to the complicated understanding of what is implied in the situation. Thus while activity is causal, it is a mistake to regard its effects as necessary, for causality is an intellectual form imposed upon organic happenings, while the activity itself is not thus conditioned. Freedom, therefore, is an immanent, essential law of nature. **Wilhelm Dieck:** Ueber den Begriff der negativen Zahlen. The question: Is arithmetic a logically correct teaching structure, (a logic) is answered in the affirmative. It is, of course, not such in the traditional logic, but

rather in the new logic in which the actual forms and laws of thought as measured by the present position of the individual sciences, are critically examined and more fully understood. Mathematics is the furthest developed of all sciences, logic included. The true laws of human thought can only be perfectly expressed in mathematical terms; the ordinary logical formulas are shown to be disproportionate to this task. **Max Wiskemann:** Bemerkungen ueber Raum und Zeit: Raumsinn-Zeitsinn. The special property of a thing circumscribes its actuality. Thus the concept of space is not a gratuitous form of thought but is a necessary form of thought with a foundation in reality. Likewise there is no reality that is not conditioned by the time element and so this element is also a reality in the objective order which necessarily conditions our thinking. **A. Herzberg:** Moeglichkeitsfragen betreffend den Satz von ausgeschlossenen Dritten, Kausalitaet und Telepathie. (1) The fact that Brouwer elaborated a logic without the use of the principle of the excluded middle, is an answer to Petzoldt's query as to the possibility of such a logic. (2) It appears that causality is not something elementary but is a higher form of the ordering of nature, which becomes known to us through the result of the interaction of appearances. (3) We need not bother with metaphysical explanations of telepathy since, as yet, there is no psychic theory on the matter that has definitely established itself. The brain-rays theory of Cazzamali seems to be the coming interpretation of this phenomenon. However, to speak of it as a phenomenon is premature, for while Petzoldt has shown its possibility he did not prove that it ever does take place.

Philosophisches Jahrbuch: Band 42, Heft 1.

Erich Przywara: Kantischer und Thomistischer Apriorismus. Maréchal made the effort to harmonize Kantian doctrines to Thomism and to refute Kantian agnosticism on Thomistic principles. He points out the similarities in both systems which are, according to Maréchal, often no more than differences of terminology. This is carried through both the metaphysics and the epistemology of Kant and Thomas. It remains for us, however, to make a double distinction: first, to which Thomistic interpretation does Maréchal's exposition belong; and secondly, is this interpretation actually that of Thomas? The answer to the first is that Maréchal gives a distinctive Platonic viewpoint to Thomism; and, as the answer to the second question, it must be said that this is hardly Thomas' mind for he did not regard the foundation of the principles of metaphysics and knowledge as *prima principia innata* but showed that they have a radical dependence on the *sensibilia*. There is, of course, a Platonism in St. Thomas but it is that of Augustine. That Maréchal has also developed this means that this part of his work will be the permanent part. **J. Kloesters:** Nicolai Hartmanns kritische Ontologie. The conclusion to the study of Hartmann's theory of Being. We can agree with Hartmann that real being in its most fundamental aspect is the ultimate object of knowledge. Further than this we cannot go for it is impossible to regard the thinking intellect as only a mode of being. This is evident from the fact that the intellect can penetrate to the essence of objective being. Likewise it is

incorrect to distinguish between a logic of reality and a logic of thought. The laws of thought are rooted in reality and thus bear a relation to the reality and are valid for realization in things at all times. It is on this point that Hartmann's "ontology of knowing" proves itself inadequate. **Walter Dubislav:** Zur Lehre von den sog. schoepferischen Definitionen. A study in the logic of symbols and their application to the exact sciences; as well as an inquiry into the validity of mathematical logic in the endeavor to find a means of attaining further knowledge. **Werner Gent:** Die Struktur des biologischen Denkens. The objects of biological thought are examined by the author, and through these he brings us to the problem of elaborating biological ideas. All such ideas are conditioned by the nature of the object studied—the organism. From here, we proceed to purpose, cause and means. All these elements enter into correct biological thinking. **J. Ternus:** Ludwig Fischers Theorie der Weltanschauungen. The Berlin philosopher, Fischer, in his three works, *Wirklichkeit, Wahrheit und Wissen*, *Das Vollwirkliche und das Als-Ob*, and *Die natuerliche Ordnung unseres Denkens und der Zusammenhang der Weltanschauungen*, proceeds according to definite plans to construct a new metaphysics. He takes into consideration the "irrational feelings" that work hand in hand with reason, in his endeavor to trace the fundamental lines of a completely ramified world-view. Because of the admission of these he calls his system a "Rational Relativity". In it he seeks to discover the axiomatic fundamental form in a world-view, to derive from this the basic implications to which it points and from here, through a widely spread out analysis to fill the form with the higher gradations, essence, organic individualization, world—and universe-form. This deepest and most general form of world-view is "contradiction-unity". It appears in the three classes of experience as: the resting form in space; the flowing in time; and the overshadowing form of knowing. **Otmar Schissel:** Das Ende des Platonismus im Altertum. The Platonic system lacked the very thing which gave life to the doctrines of Aristotle—a well defined logic. Thus after tracing the fortune of Plato's teaching through the various schools and in the hands of various scholars we come finally to the academy of Justinian I. By this time the peripatetic spirit had broken through the Platonism of Proclus and Damascios. Simplicius became the leader in explaining the works of Aristotle and during his time the more objective doctrines of the latter came to occupy all positions. The still existing Neo-Platonism greatly modified by Aristotelianism became the legacy of antiquity to the Middle Ages. **Kaete Friedemann:** Die romantische Naturanchauung. The Romantic conception of the relation between physical nature and spirit is that the spirit is the creative power of nature and that it, the spirit, is conscious of the end to which nature points. They make, however, no essential distinction between nature and spirit but regard them as two aspects of the same thing. Romanticism regards nature as alive and begetting life; it is not the contradiction of spirit but rather the incarnation thereof.

Zeitschrift fuer Katholische Theologie—Band 53, Heft 1: January 1929.

Arthur Landgraf: Handschriftenfunde aus der Fruehscholastik. Research in the manuscripts of Scholastic writers was up to the present mostly confined to the middle and later periods of Scholasticism. There remains a wealth of material from the early period waiting for presentation and exposition, but before this can be accomplished even the preliminary work of tracing the authorship must be gone through. The writer cites numerous passages referring to unknown works of early Scholastics such as Goefrey of Poitiers, Gerardus, Peter Brito, Bertrand, Magister Andegavensis, etc. **W. Hess:** Die philosophischen Inauguralquaestionen an der ehemaligen Akademie zu Bamberg. The tone of a school is indicated by the methods, examinations, and subjects thereof. Dr. Weber made researches in the records of the Academy of Bamberg and discovered a series of inaugural questions showing in the beginning of the eighteenth century a keen interest in a wide variety of subjects. These questions deal with physics, arts, invention, philosophy and theology. Questions covering several years are appended to the article and prove most absorbing.

Philosophischer Weltanzeiger: Jahrgang II, No. 2: March, 1928.

Oskar Kraus: Franz Brentanos Stellung im philosophischen Leben der Gegenwart. Brentano is still the source of much spiritual influence in the world. The dogma of Infallibility was more than he cared to accept and its declaration marked for him the beginning of his independent endeavors. Among those who admit having been influenced by him are Puglisi, Bolzano, Titchener, Russell and James. His artistic temperament found expression in his poetry while his life's work was the combining of what he took to be the best elements of the *philosophia perennis* with the critical philosophy of his time.

Philosophischer Weltanzeiger—Jahrgang II, No. 3: May, 1928.

Antonio Aliotta: Roberto Ardigò zur Hundertjahrfeir seiner Geburt. The University of Padua is celebrating this year the centenary of the leader of Italian positivism. Born in January, 1828, he was brought up in the Catholic religion and finally received Holy Orders. He taught in a Catholic seminary for some time and subsequently in a State academy. His change of attitude began with his ecclesiastical deposition for not submitting to the dogma of Infallibility. The University of Padua offered him the chair of philosophy which he accepted and he remained there till his death in 1920. His doctrines represent an extreme form of positivism in which he reduces the abstract and universal concepts of metaphysics to sensible realities.

Divus Thomas—7 Band, Heft 1: Maerz, 1929.

G. M. Manser: Das Wesen des Thomismus, (b) Das Wesen der Analogie. Etymologically analogy signifies a relation between several things. The philosophical doctrine of analogy has a mathematical origin and is built

up on the two fundamental ideas of proportion, unity and diversity. There are numerical relations which express neither absolute identity nor diversity, but hold an intermediary place. The transfer of this physical doctrine of proportions to the metaphysical order is justified epistemologically and ontologically. The various definitions of analogy given by St. Thomas express the three elements of a true analogy: A common name, the members of the comparison, and the one and same thing (analogon) in which they resemble each other. Analogy is compared with equivocation and univocation. Metaphysical analogy is impossible in any system of philosophy that denies the real unity of being in things or the reality of being itself. This real unity of being and identity in the members of the comparison is not absolute, but relative. Being is not a universal in the strict sense, "univoce," but "analogice." The entire metaphysics depends upon the doctrine of analogy. If being is predicated of things "aequivoce" (in an absolutely different sense), they have no being, and then there is no multiplicity of things; if it is predicated of things "univoce" (in an absolutely identical sense), there is but one thing, and again no multiplicity of things. (To be cont.) **Franz Zimmermann:** Candidus, Ein Beitrag zur Geschichte der Fruehscholastik. Candidus is the Latin name of Bruun, a German monk of Fulda who died in 845. He wrote the *Vita Baugulfi*, the second abbot of Fulda; the *Vita S. Eigilis*, another abbot of the same monastery; *Opusculum de passione Domini;* and two letters: *Epistola Candidi, Num Christus corporeis oculis Deum videre potuerit* (which he answers in the negative), and the *Dicta Candidi.* The authenticity of these writings is well established. The *Dicta Candidi* are twelve in number. They treat of the image of God in the soul of man; the relation of the essence of God to His attributes; of truth; the eternity of God; of being; of substance; of place; of time; the reasons for the creation of man; of man's knowledge of the Blessed Trinity; the illocality of the soul; and a cosmological argument for the existence of God. The limitation of man's power points to a superior power which governs all things. The *Dicta Candidi* bear a close resemblance to the thoughts expressed in the *De statu animae* of Claudianus Mamertus, which he probably used. The works of Candidus throw light on the problems and the methods of the earliest theological speculations of the Middle Ages. **Petrus Wintrath:** Wirklichkeit und Bild im Erkennenden. The Scholastic concept of knowledge is often styled the image-theory, with the implication that it connotes the knowledge of the images of things and not of the things themselves. This is due to a misinterpretation of the words of St. Thomas and other Scholastics who speak of the objects as impressing their images upon the knowing faculty in the process of knowledge. The knowing and the known become identified, not physically, but intentionally; and this identity is a guarantee that the knowing faculty attains the object in its real being. Knowing means the possession of the forms or of the objects *intentionaliter* by means of the species. The terminus of knowledge is not the species expressa, which is but the means of knowledge, but the object itself. The species, the means, need not be known first, for it mediates the knowledge of the object.

Therefore *cognoscens fit cognitum.* This relation between the knowing faculty and the known object is not one of absolute identity, but one of perfect assimilation in the intentional order. This relation is transcendental; the knowing faculty becomes similar to the object, and not the object to the faculty. It is a *relatio realis conformitatis, adaequationis, similitudinis—per identitatem intentionalem.* (To be cont.) **Gottfried Puentener:** Der Zweifel als wissenschaftliche Methode in der Theologie, insbesondere in der Apologetik. Doubt possesses a real methodical value in the search after truth if the two contradictories in question are well supported by reasons and maintained so long as these reasons permit. The solution of the doubt is not found in the mere negation of either proposition, but in a higher synthesis of the two contradictories in the first place, or in the complete rejection of the one when the other has been proved to be false. If the doubt is but the refusal of assent and the endeavor to question everything a priori, it can never become a scientific method of research. Doubt to be a method must be positive, based on solid reasons, and not negative, lacking all foundation. Methodical doubt is, therefore, not to be identified with the fictitious doubt which merely feigns a real situation. The writer illustrates his meaning by means of well-chosen examples and holds up St. Thomas as a master in the application of the methodical doubt to the problems of theology. The Church admits no objective doubt in the Catholic regarding his Faith, but she presupposes the possibility of such a doubt in the non-Catholic and acknowledges its positive character.

Our Slumbering World. A Plea for the Awakened Mind. By Edmund Noble. New York: Henry Holt and Co., 1928. Pp. vi + 301.

It is sadly true that man in the course of history has hardly ever used his distinctly human faculties to the fullest and best advantage; though endowed with the priceless prerogative of rationality, he has but seldom listened to reason and instead has given an eager ear to passion. Even at this moment the voice of reason can but faintly make itself heard above the turmoil of passion. A large portion of mankind is living in a world of dreams and unrealities. Truly, the world needs an alarm call that will startle it into wide-awakeness and compel it to open its somnolent eyes. Naturally, therefore, we would feel inclined to welcome the author's plea for the awakened mind, if we had not serious misgivings as to its effectiveness.

The book abounds with shrewd observations, clever criticism and brilliant suggestions of a more or less constructive nature. Still, as a whole, it is unsatisfying. To inspire confidence it touches on too wide a range of topics. As a consequence it must needs be superficial and nowhere gets down to bedrock. It reminds one very much of Dr. Robinson's *The Mind in the Making* and has about the same general drift and the same good and bad features. This business of remaking the world is regarded too lightly by the modern writer and mostly undertaken without sufficient qualifications. The task of reshaping the world and remolding mankind is a trifle too big even for a successful journalist.

It goes without saying that the author approaches his subject from the angle of the thorough evolutionist. Hence the frequent references to our animal ancestry and our animal inheritance, but a clear setting forth of man's nature and his destiny and a lucid explanation of mind cannot be found anywhere. A certain nebulous vagueness pervades the entire volume. The moral issues with which it is concerned are all of the social kind.

Withal the book makes stimulating reading. The journalese tang of the style and the assurance of the author are delightful. The author's familiarity with contemporaneous thought and his firsthand acquaintance with recent events also are evident on every page.

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